



This work is protected by copyright and other intellectual property rights and duplication or sale of all or part is not permitted, except that material may be duplicated by you for research, private study, criticism/review or educational purposes. Electronic or print copies are for your own personal, non-commercial use and shall not be passed to any other individual. No quotation may be published without proper acknowledgement. For any other use, or to quote extensively from the work, permission must be obtained from the copyright holder/s.

T

Oral reading errors and metalinguistic knowledge:  
a study of remedial readers in the Secondary school.

Ann Henshaw

Thesis submitted for the degree of  
Doctor of Philosophy  
University of Keele, 1988.

## Acknowledgements

Sincere thanks must go to:  
my supervisor, Dr.James Hartley;  
my typist, Mrs.Doreen Waters;  
the Headteachers and staff of the schools concerned,  
but most of all to the children whose tolerance and  
good humour made this thesis possible.

## CONTENTS

### VOLUME 1

	Page
ABSTRACT	1
PREFACE	2 - 5
<b>PART ONE: ORAL READING ERRORS AND THEIR ANALYSIS</b>	
1 Oral reading error analysis: an overview	6 - 31
2 Oral reading error studies: the aims of the present study set in the context of existing research	32 - 115
<b>PART TWO: PLAN AND PROCEDURE OF THE STUDY</b>	
3 A summary of the aims of the study with background information about the school in which it was conducted	116 - 129
4 Method: the 9 'sessions'	130 - 169
5 The analysis of the oral reading errors: some preliminary details	170 - 191
<b>PART THREE: RESULTS OF THE ORAL READING ERROR ANALYSES</b>	
<b>Section A The SELF-texts</b>	
6 Reading accuracy and patterns of error on the SELF-texts	192 - 199
7 The nature of the REFUSAL, OMISSION and INSERTION errors on the SELF-texts	200 - 228
8 The qualitative analysis of the SUBSTITUTION errors observed during the children's reading of the SELF-texts	229 - 256
<b>Section B The PEER-texts</b>	
9 Reading accuracy and patterns of error on the PEER-texts	257 - 261
10 The nature of the REFUSAL, OMISSION and INSERTION errors on the PEER-texts	262 - 278
11 The qualitative analysis of the SUBSTITUTION errors observed during the children's reading of the PEER-texts	279 - 306



<b>Section C</b>	<b>The CLASS-text</b>	
12	Reading accuracy and patterns of error on the CLASS-text and an up-date of the children's real age/reading age discrepancy scores	307 - 313
13	The nature of the REFUSAL, OMISSION and INSERTION errors on the CLASS-text	314 - 340
14	The qualitative analysis of the SUBSTITUTION errors observed during the children's reading of the CLASS-text and COMBINED and SINGLE-SOURCE errors on the three kinds of text	341 - 374

## VOLUME 2

<b>Section D</b>	<b>Reading strengths and weaknesses</b>	
15	Patterns of oral reading errors on the three types of text and a consideration of the children's reading strengths and weaknesses	375 - 433
16	The results of the 'out-of-context' tasks	434 - 447

## **PART FOUR: METALINGUISTIC KNOWLEDGE**

17	Children's metalinguistic knowledge about reading: the current research picture	448 - 459
18	Results: the children's perceptions of their own reading attainment and their notions of what characterises 'good' and 'poor' readers	460 - 481
19	Results: the nature of written material: notions of 'easy' and 'difficult' texts	482 - 498
20	Results: reading strategies: the children's solutions to the problem of solving 'unknown' words	499 - 520
21	Results: the basic vocabulary of reading and written language: COMMA, QUESTION MARK, SPEECH MARKS and APOSTROPHE	521 - 556
22	Results: the children's opinions about the purpose of reading	557 - 574
23	Metalinguistic knowledge and perceptions of reading: a summary and discussion of the findings	575 - 590

PART FIVE:	ORAL READING ERRORS AND METALINGUISTIC KNOWLEDGE	
24	A summary of the major findings of the study and some possible implications for classroom practice and future research	591 - 617
APPENDIX A	Pilot work: the feasibility of producing 'self-generated' texts	618 - 633
APPENDIX B	ANOVA tables and Chi-square values	634 - 644
APPENDIX C	Classification schedule for the detailed analysis of SUBSTITUTION errors	645
APPENDIX D	The CLASS-text passage and examples of SELF and PEER texts	646 - 659
APPENDIX E	List of tables and figures	660 - 667
REFERENCES		668 - 675

## ABSTRACT

Both the oral reading errors and the metalinguistic knowledge of 52 eleven year old Secondary school remedial readers were investigated during 9 reading-task/structured interview sessions. The children read three texts which were of similar linguistic difficulty but which differed in terms of their 'accessibility': SELF-texts (based on the readers' oral language); PEER-texts (the 'self-generated' texts of their peers) and a CLASS-text passage from a typical class-reader. The results of the analyses performed on the children's REFUSAL, OMISSION, INSERTION, and SUBSTITUTION errors showed that reading accuracy and the pattern of errors on each type of text was very similar and that all the children were capable of utilising the graphic, semantic and syntactic cues provided by the texts. However, the 'quality' of the SUBSTITUTION errors differed according to text-type and to reading ability. On the SELF and PEER-texts the errors of the 'Poorer' readers in the sample were, by and large, as 'good' as those of the 'Better' and 'Fair' readers whilst the CLASS-text performances showed the errors of the Poorer readers to be qualitatively inferior to those of the other children. These results were interpreted to suggest that, whilst the reading strengths and weaknesses of the children did not differ per se, the strengths of the Poorer readers were the least 'portable' across texts of differing accessibility. The children's reported metalinguistic knowledge of their own problem-solving strategies showed evidence of a 'mismatch' between what they said they did when they encountered an 'unknown' word and what the analysis of their reading errors suggested they actually did. Readers seemed particularly unaware of their ability to make use of the linguistic context in solving 'difficult' words although their ability to do this was clearly indicated by the analysis of their errors.

## PREFACE

During the last twenty years or so reading researchers have directed a good deal of attention towards the analysis of children's oral reading errors or 'miscues' (Goodman 1967; Potter 1987). The assumption has been that the study of that which 'goes wrong' as children learn to read can help us towards a better understanding of that which 'goes right' as they become more proficient. In other words we have come to believe that the observation and analysis of oral reading errors can teach us something about what reading is and how it is learned.

During this time there has also been an increasing acknowledgement that whatever successful reading is it involves many cognitive and linguistic competencies. One result of this awareness has been the growing interest of researchers in children's metalinguistic knowledge. What children 'know' about language and the world of print, and what they 'know they know' has become an interesting and exciting area of research. There now seems little doubt that a relationship exists between the metalinguistic knowledge that readers possess and their reading success and failure. However, the precise nature of such a relationship is not yet clear. Moreover, as far as the present author is aware, there are no studies of children's reading currently available which attempt to link the information gained from an analysis of oral reading errors with information about readers' metalinguistic knowledge.

The work described in the following chapters attempted to make such a link by studying the oral reading errors and the metalinguistic knowledge of 52 eleven year old Secondary school

‘remedial’ readers. In pursuing these two complementary lines of enquiry the eventual question posed was whether a ‘match’ or a ‘mismatch’ could be observed between what the children said about reading and themselves as readers, and what they did when they read aloud.

However, it is important to preface the study by mentioning two particular aspects of the investigation. The first of these concerned the decision to focus on ‘remedial’ readers in the Secondary school. This decision resulted from the discovery that whilst a good deal of oral reading error and metalinguistic knowledge information is available about younger ‘average’ readers, very little is known about these aspects of reading-related behaviour in children who have entered the Comprehensive school with a history of reading problems.

The second important aspect of the investigation was the decision to produce tailor-made ‘self-generated’ reading texts for each of the 52 readers and to make use of these to observe their reading errors. This decision was prompted by the author’s awareness of two apparently disparate features of the existing reading research literature.

First of all there was the question of ‘text difficulty’ in the choice of suitable reading materials and the problem encountered by many oral reading error researchers that existing readability measures are of limited value in ensuring that a text is of the same relative ease or difficulty for individual readers (Potter 1981). It is true that the linguistic difficulty of a chosen text may be reasonably accurately assessed but, decoding ability apart, each

reader will bring to the reading task different experiences and background knowledge of the language involved. Thus what might be termed the 'accessibility' of a particular text may differ from reader to reader. It may be that such experiential differences have a profound effect on the number and the nature of children's oral reading errors.

Pondering on this problem by the present author led to the consideration of a second feature of existing reading research literature. This was work which has not focussed particularly on the analysis of oral reading errors but which has involved children producing and reading their own texts (Keithley, 1974). Such research is based in the belief that reading instruction should provide cognitive and linguistic continuity of language. However, it seemed possible that the use of 'self-generated' texts in observing children's oral reading errors would go some way towards solving the problem of the differing 'accessibility' of the reading material. It was for this reason that the children who took part in the present study were presented with 'SELF-texts' as well as being asked to read each other's texts (PEER-texts) and a passage taken from a 'normal' class-reader (CLASS-text). It was envisaged that the oral reading error analyses which stemmed from the presentation of three texts which might be assumed to differ in terms of their accessibility, but which were approximately equal in terms of their linguistic difficulty, would provide a more rounded picture of the children's reading strengths and weaknesses than could have been obtained from the use of just one 'conventional' text. This picture was to be further complemented by information about the children's metalinguistic knowledge.

The thesis which follows is divided into five parts. PART ONE focusses on existing oral reading error research and attempts to identify some of the methodological problems which have hindered its progress. PART TWO introduces the school in which the study was conducted, describes the procedural details of the nine reading-task/interview sessions, and gives some preliminary details of the analyses which were conducted on the children's oral reading errors. PART THREE reports the results of the oral reading error analyses which were conducted on the SELF, PEER and CLASS-texts along with the results of an additional investigation of the children's use of the linguistic context. PART FOUR is concerned with the investigation of what the children knew, or could say, about reading and about themselves as readers. The final part of the thesis, PART FIVE, attempts to bring together the information gained about the oral reading behaviour and the metalinguistic knowledge of the children and to summarize the major findings of the study. Some possible implications of the findings for classroom practice and future research are also considered in the final chapter as are the limitations of the study.

PART ONE

ORAL READING ERRORS AND THEIR ANALYSIS



## CHAPTER 1

### ORAL READING ERROR ANALYSIS: An overview.

Teachers have no doubt shown an interest in the number, if not the nature, of their pupil's reading errors since the formal teaching of reading began.

In England at least, in the early days of compulsory education, "Payment by Results" provided every teacher of reading with a direct, if dubiously motivated incentive for such an interest. The necessity of putting pupils through a clearly enunciated 'performance' - a list of words and a paragraph or two of prose - marked a singularly inauspicious beginning to the study of what teachers now most often refer to as reading "miscues". Indeed, before the turn of the twentieth century Matthew Arnold was complaining bitterly of the effects of "Payment by Results". Thus, Goodman's (1969) condemnation of a child engaged in mere "barking at print" is not new, though Arnold presumably expressed his dismay at such a performance with a considerably more eloquent turn of phrase. In one sense at least then there is nothing new about the concern with reading errors, or about the controversy which their study can engender.

For researchers too, the study of oral reading errors has attracted attention since the early part of the twentieth century. Huey (1908) reviews some of the early tachistoscopic experiments in which errors were deliberately introduced into the words displayed so that inferences could be made about the reading process. Since then hundreds of papers, books and articles have been published, describing numerous methods of provoking, observing, analysing and explaining reading errors and the inferences which can be made from

them. It is largely due to oral reading error research, and particularly to its development during the last twenty years, that we have moved away from the "theory" that reading is an exact process: that the proficient reader must read every word exactly as it is printed on the page in order to understand the message of the author. Thanks to the linguistic approach of researchers such as Goodman (1967), Clay (1972) and Smith (1971), the "exact process" or "stimulus-response" notion of reading now receives about as much support as the view that the earth is flat.

The 'early' literature of the study of oral reading errors has been summarised by Weber (1968), and its practical applications questioned by Hood (1978). More recently the nature and development of such research has been critically reviewed by Wixson (1979) and by Leu (1982). Some of the main points made by these and other authors will be considered below whilst a more detailed critical review of some of the oral reading error studies published during the last twenty-five years or so is the subject of the following chapter.

### The assumptions behind oral reading error analysis research

The assumptions behind oral reading error analysis may be grouped under three main headings:

1. Mistakes, miscues and psycholinguistics
2. Methodological considerations
3. Oral and silent reading.

Each heading signifies a problematic aspect of the extant research. These three aspects will receive consideration as this chapter proceeds whilst the interpretations and claims of researchers in this field will be dealt with in the following chapter where individual studies are considered in detail.

## 1. Mistakes, Miscues and Psycholinguistics

Early investigators of oral reading errors had the tendency to lump together all kinds of deviations from the text as being indicative of unsuccessful reading, (Madden & Pratt, 1941; Gilmore, 1947; Ilg & Ames, 1950). Such studies have been reviewed by Weber (1968) and, as Leu (1982) pointed out, the conclusion must be that researchers were heavily influenced by the assumption that proficient reading equalled exact reading and that error frequency was inversely related to reading comprehension. Such an assumption meant that the linguistic level of a particular error, (graphic, syntactic or semantic) was by and large ignored.

For instance, a SUBSTITUTION of the word "choose" for "chose" in the sentence:

choose  
They chose the best people.

would be conceived as being just as wrong as a SUBSTITUTION of the word "chase" in the same sentence:

chase  
They chose the best people.

Weber (1968) found that another problem with the early research was concerned with the way errors were classified. Some researchers use the word as the unit of classification, some the letter, and some the word and the letter. In the above example, (choose v. chose) the use of the letter-unit classification would result in the substitution "choose" counting as two errors, whereas the substitution of the word "chase" would give an error-count of only one. This, despite the fact that "choose" is the eminently preferable error as regards preserving the meaning of the sentence.

As Weber (1968), Goodman (1969), and later Leu (1982) pointed out, the confusion over what counted as an error and how it should be scored, led to a mass of seemingly contradictory findings with regard to error-type and error-frequency relating to readers at different ages and stages of reading proficiency. Moreover the fundamental, though largely undebated problem of what constitutes an error was further complicated in these early studies by the tendency of researchers to include what might be called "performing-art" error categories in their taxonomies: highly subjective and often overlapping errors such as "unacceptable enunciation" (Duffey & Durrell 1935), "hesitation" (Schummers 1956), and even, as noted by Arnold (1982) "unacceptable reading posture" (Johnson & Cress 1965). In short, and as Leu (1982) has emphasised, oral reading error research prior to the late 1960s lacked a clearly articulated theoretical framework and researchers, by and large, restricted themselves to little more than a frequency-count of surface level categories of error. These were often both arbitrarily determined and poorly defined. Put simply: all deviations from the text were errors; errors were "bad", and bad errors demanded remedial attention.

However, the late 1960s saw a change in orientation as regards oral reading error research, the clearest statement of the new approach being apparent when the word "error" became replaced in the literature by the term "miscue".

"the phenomena to be dealt with will be called miscues rather than errors, in order to avoid the negative connotation of errors (all miscues are not bad) and to avoid the implication that good reading does not involve miscues."

Goodman (1969) p12.

Goodman's now familiar insistence that the reader should be regarded, first and foremost as a language user, engaged in a cognitive, problem-solving activity not divorced from other language skills, marked something of a water-shed in oral reading error research, or "miscue analysis" as it has since come to be known. The adoption and development of a linguistically-based framework, applauded by Leu (1982), became apparent in the investigations of researchers such as Clay (1967, 1968, 1969); Biemeller (1970) and Burke (1970). "Mistakes" became "miscues" and the notion that some errors, if not exactly good, were certainly not as bad as others received increasing attention and support:

".....miscues are not simply errors, but the results of the reading process being miscarried in some minor or major ways."

Goodman (1969) p.12.

A summary of the burden of the psycholinguistic message as it relates to miscue analysis now forms an integral part of every researcher's introduction to his or her particular investigation, (Burke 1976; Potter 1980, 1981, 1982, 1983; Murray & Maliphant 1982; Hudson & Haworth 1983; Harding et al 1985). This being so, the message need not be repeated here except in the briefest of terms.

Putting it simply we might say that the reader, as an active language user, brings to the text some concept of what language is and how language works; that the text offers readers graphic, syntactic and semantic cues; that readers deviate from the text not by chance, but for psycholinguistic reasons, and that it is assumed that the observations of such deviations can be compared with the expected responses in order to make inferences about the reading process.

The methodological problems which plague the research, and the implicit assumption that the oral and silent reading processes are the same will be discussed below but generally speaking reviewers agree that miscue analysis has been valuable in pointing up both the interaction between the reader and the text, and the active contribution which an individual makes towards the contribution of the printed message. As Leu (1982) suggests, the addition of a linguistically based theoretical framework has done much to increase the value of the oral reading research carried out during the last twenty years or so. Researchers such as Y. Goodman (1970); Goodman (1973); Allen & Watson (1976); and Potter (1983), have also used their findings as the basis of suggestions regarding classroom instruction.

The various and sometimes conflicting findings stemming from miscue analysis will be discussed in a later section of this chapter. First it is necessary to consider the methodological problems of miscue research procedure and then examine the assumption that oral and silent reading are "the same".

## 2. Methodological Considerations

As stated above miscue analysis is plagued by a variety of methodological problems. This holds true despite the adoption and development of a linguistically-based framework by researchers during the last twenty years.

The main problem areas have been identified and discussed by Weber (1968); Maclean (1981) and Leu (1982) and may be summarised as follows:

- \*\* The defining and scoring of miscues.
- \*\* Readability, passage choice and miscues.
- \*\* Single and combined-source miscues.

To these the present author would also add the following:

- \*\* The narrow selection of samples.
- \*\* The lack of longitudinal or "follow-through" data.
- \*\* The lack of complementary information about readers.

Each of these problem areas will be considered below. The first three need only the briefest of expositions since they have been extensively discussed by the authors referred to above. The last three will be considered in the following chapter where a selection of miscue studies carried out during the last twenty years or so will

be critically reviewed.

### The defining and scoring of miscues

There is a good deal of variation amongst miscue studies as regards what constitutes an error and how it should be scored. As Leu (1982) points out, there is nothing new about this problem since Weber (1968) and Hood (1976) both discussed it.

In studies undertaken during the last twenty-five years deviations from the text most frequently defined as miscues have been: REFUSALS, (sometimes termed 'Non-response errors'); INSERTIONS; OMISSIONS and SUBSTITUTIONS. However, many researchers pay no attention to REFUSAL errors (e.g. Y. Goodman 1970; Weber 1970; Thompson 1981) whereas others disregard INSERTION errors (e.g. Harding et al, 1985). This is partly explained by the finding of several researchers, for example Cohen (1974-5), that these two types of miscue occur too infrequently to warrant analysis.

PUNCTUATION errors are included in a few studies, (Goodman 1969; Hood & Kendall 1975-6) as WORD ORDER CHANGES, (Hood & Kendall 1976). SELF-CORRECTIONS have also been a focus of interest for some researchers, (Goodman & Burke 1970; Cohen 1974-5; Biemeller 1979; Beebe 1980) but in the main these have been excluded from miscue-counts and analyses.

However, by far the most common studies are those which focus, often exclusively, on SUBSTITUTION errors, (e.g. Burke 1976; Potter 1980, 1982, 1983). This is hardly surprising since there is a general consensus that this type of miscue is the most frequent, at



least in children who have passed the beginning stages of learning to read, (Goodman & Burke 1968; Weber 1970; Y. Goodman 1971; Beebe 1980).

There is then, a variety of ways of answering the question: How are miscues defined? This poses obvious problems if one desires some clear understanding of the types of errors most frequently made by readers in general, or by readers of a certain age or ability. However, this problem pales into insignificance when one considers the problems attendant on the analysis of miscues once they have been defined.

As regards SUBSTITUTION miscues the notion of "graphic similarity" (to the target word) poses particular problems. The difficulty is centred around the notion of how much graphic similarity there must be between the word as printed in the text and the word as pronounced by the reader. "Initial letter similarity", crude but simple, is used by some researchers, (Biemeller 1970, 1979). Biemeller actually notes the crudity of this criterion but refers the reader to Weber's (1970) "graphic similarity index" which has shown that first letter correspondence is highly associated with other correspondences between the response and the stimulus word. Other researchers, attempting a more sensitive measure have developed and used "graphic similarity scales", (e.g. Goodman 1969; Cohen 1974-5; E. Burke 1976). In doing so they have produced such a plethora of inconsistencies and seemingly arbitrary decisions about how graphic similarity should be quantified that the crudity of "initial letter similarity" seems less unattractive than it might at first appear.

Cohen (1974-5) for example, analyses SUBSTITUTION errors according to "5 degrees of graphic approximation to the stimulus word", (the closer the similarity the higher the score). However, the example she provides, (which one might suppose is chosen to indicate the reliability of the system), immediately raises questions. The example shows that whilst a substitution of the word "eat" for the target word "the" receives a score of 2, a substitution of "the" for "a" receives a (better) score of 3. In this example then we see that a SUBSTITUTION which has no letters in common with the target word, (the/a) is judged as being more "graphically similar" than a SUBSTITUTION in which only one letter differs from those of the target word. (Of course the letter order of 'eat' and 'the' is different but that raises another question). Moreover, Cohen's highest rank of graphic similarity, (5), demands that a substituted word contain "at least half the letters in common" (with the target word). Strictly speaking the substitution of the word "eat" for "the" does fulfil this criterion. This poses a problem.

The problem is further aggravated when researchers treat their "similarity scales" as yielding interval data and take the advantages offered by the use of parametric statistics. This criticism, in relation to Burke's (1976) study, was addressed in some detail by Potter (1982) who concluded that it was questionable whether her scales of graphic, semantic and syntactic similarity, based on Goodman's Taxonomy, yielded data which could even be considered to be ordinal. This, despite her use of parametric statistics in the form of ANOVA. Mingay (1977) in a study which employs a scoring system based on Goodman's Taxonomy does actually raise the question of whether the scales of measurement can rightly be considered ordinal. He nevertheless proceeds to use parametric statistics under the

mistaken impression that one of the important assumptions which needs to be met as regards analysis of variance is that: "the variables employed represent an ordinal scale." (p.25).

This misuse of statistical techniques, coupled with the inconsistencies apparent in similar scoring systems, (e.g. Cohen 1974-5 above) points up the problems encountered by researchers seeking to devise some stringent quantitative method of assessing the similarity of oral reading errors to the words printed in the reading passage. The over-zealous use of numerical scales and their inherent problems was thus a strategy which the present author decided to forgo in favour of a simpler, but it is hoped, a more truly descriptive analysis of reading errors.

In summary, the joint problems attendant on the definition, scoring and statistical analyses of miscues, together with researchers' general lack of willingness to discuss them, constitute a serious cause for concern on at least two counts. On the one hand they limit any attempt to draw together and interpret the findings of the large body of miscue research; on the other they limit the validity of attempts to apply miscue evidence to classroom practice in the teaching of reading.

#### Reading ability, passage choice and miscues

Many researchers pay little attention to the probable interaction between reading ability, passage difficulty and frequency of miscue types. Consequently we have very little information about how the same reader may employ different strategies, and produce different frequencies of miscue according to whether or not he finds

a text difficult or easy. It may well be the case that readers - both 'good' and 'poor' - have more flexibility of approach than miscue research has so far demonstrated. Alternatively it might be that a lack of flexibility (as regards using both graphic and contextual information) is a major factor in limiting the proficiency of some readers. However, neither of these hypotheses can be investigated unless good and poor readers are required to undertake the same task in the sense that the relative ease or difficulty of a text is controlled. Providing one text, deemed to be generally 'suitable', and asking both good and poor readers to read it is, in effect, asking them to engage in tasks which are qualitatively different: the text will be easier for the good reader than for the poor reader and this may have a profound effect upon the strategies used. In other words, whilst it may appear that poor readers make little use of contextual information on a passage which is too difficult for them, the same might also be true of good readers faced with a task of the same relative difficulty.

There is indeed some experimental evidence for this in that Biemiller (1979) found that difficult stories produced more graphically similar errors and fewer contextually constrained errors, whilst the reverse was true for easier stories. Nevertheless the majority of researchers have ignored this problem and gone ahead with comparisons of miscue frequencies of good and poor readers who have been asked to read the same passage. (e.g. Goodman & Burke 1973; Hood & Kendall 1975; Murray & Maliphant 1982). Moreover, their findings have usually been interpreted as showing a developmental trend regarding the more effective use of contextual information by more able readers. If children of differing abilities are presented with the same text, one might expect to find such differences in

terms of miscue rates and frequencies. However, such studies do not demonstrate that younger or less able readers cannot make effective use of contextual information, only that they do not under certain contextual constraints.

It is clear from existing studies that this problem of the likely interaction between reading ability, passage difficulty and miscue-type frequency has not been thoroughly appreciated or addressed. As Leu (1982) points out, some researchers favour the use of material at the 'instructional' level of difficulty (Biemiller 1970; Weber 1970a, 1970b) whilst others use selections from reading material estimated to be about one year ahead of that usually encountered by the children. Indeed, even when some attempt to control the passage difficulty variable is made, the resulting comparisons of readers' miscue-type frequencies can still be misleading. This problem is evident in E. Burke's (1977) comparison of the miscue profiles of two primary school pupils: 7 year old Jane, and 9 year old Richard.

Burke uses 2 passages from the Neale Analysis of Reading Ability, "the story being of a level of difficulty appropriate to the child's age". (There is no mention of the child's reading age). She offers a detailed description of the miscue profiles of Jane and Richard, and, comparing the transcripts of their oral reading attempts, suggests Richard is "reading for meaning" whilst Jane displays "tunnel vision" and "relies on graphic cues to the virtual exclusion of all else". Taken at face value Burke's interpretation of the two transcripts does indeed provide the "insight" she proposes, with Richard achieving a much more successful synthesis of graphic, semantic and syntactic cues than Jane. However, an

examination of the error-rate of the two readers (which Burke dismisses as being of "no interest") demonstrates very clearly that the children are being asked to perform tasks which differ quite markedly in terms of their relative difficulty. Jane makes a total of 13 miscues in a passage of 50 words - Richard's total is 11 miscues in a 93 word passage. To suggest that this huge difference in error rate, (11% as against 22%) is of "no interest" is to assume that the relative passage difficulty has no effect on miscue types and their frequency. On the contrary one might suggest, though of course we have no way of knowing from this particular study, that Richard, the "reader for meaning" would exhibit the "tunnel vision" of Jane were he presented with a text which provoked a 22% rather than an 11% error rate. Alternatively, Jane's reading of a less difficult text might show her to be much more capable of attending to semantic and syntactic information than Burke's transcript of her performance suggests.

Mingay (1977) in an attempt to expand Burke's research provides the only example of a British study which makes any real attempt to examine the possible interaction between reading ability, miscue type and frequency, and text difficulty. Using three texts of increasing difficulty Mingay tested the hypothesis that all groups of children - the older and more able, as well as the younger and less able - would rely more on graphic information as the difficulty of the text increased. Whilst this hypothesis was generally supported Mingay's results also suggested that the increased reliance on graphic information varied differentially within each ability band. The effect of text difficulty on the graphic scores was less marked for the below average readers, particularly as regards the more difficult texts, i.e. their reliance on graphic information, as texts grew

more difficult, was less than that of the better readers in the sample. This suggests the need for a closer examination of the text difficulty x ability x miscue frequency-type interaction and should serve to warn against generalisations such as "good readers make better use of graphic information/contextual information" by researchers who have taken little account of the possible differential processing of different texts by the same reader.

The findings of Biemiller (1979) and Mingay (1977) will receive further consideration in the following chapter where individual studies are reviewed in some detail but in summary it seems clear that the probable interaction between reading ability, passage difficulty and miscue-type frequency deserves more attention. Added to this problem is the difficult issue of a child's 'prior knowledge' of 'background information' as regards the actual subject matter of the text. Several features of the study undertaken by the present author were designed to address these problems.

#### Single and combined-source miscues

There is a general consensus of opinion amongst miscue analysis researchers that the majority of oral reading errors fall into the category of SUBSTITUTION errors and, as mentioned above, several studies have focussed exclusively on this type of error. The difficulty of collating and synthesising the findings of such studies, due to the problems of the varying definitions of graphic, semantic and syntactic acceptability of errors to the words of the text has already been discussed but a further problem also exists in relation to the analysis of SUBSTITUTION errors. The problem centres around the lack of information provided by researchers as regards the

incidence of what might be termed 'combined-source' errors in a reader's miscue profile. This holds true even though it is evident from examples quoted by researchers that many miscues reflect the possible use of several different sources of information. The prospect of deciding with any certainty which of the sources - graphic, semantic or syntactic - was most responsible for the resulting miscue is obviously extremely difficult.

Two examples, both taken from Burke (1977) will serve to illustrate this problem:

The milkman's horse had <sup>waited</sup> ~~wandered~~ in the fog.

As the intruder crossed the dreaded marshes the dragon  
charged <sup>ferociously</sup> ~~furiously~~.

The miscues shown above, (~~waited~~ for ~~wandered~~/~~ferociously~~ for ~~furiously~~), seemingly illustrate the child's use of all three information sources, i.e. each miscue is both semantically and syntactically acceptable as well as having some graphic similarity with the target word. Consequently each miscue receives a rating on each of Burke's semantic, syntactic and graphic scales. However, as Leu (1982) points out it is not possible to be sure that the child actually made use of all three information sources - perhaps only one, (the graphic) or two, (graphic plus semantic) were used rather than all three. Alternatively the graphic information may have been disregarded altogether and only the semantic-syntactic information used. However, some progress as regards tackling this problem has been made by Frank Potter in his recent series of miscue analyses involving 8 year old readers (Potter, 1980, 1981, 1982, 1983).



Potter raised the question, and demonstrated the existence of what might be called 'graphic confounding' in traditional miscue analysis procedures such as those based on Goodman's taxonomy (Goodman 1969). Potter's research will receive particular attention in the following chapter where selected oral reading error studies are reviewed in detail. For the present it is worth noting that whilst his work is continuing Potter has already added a useful contribution to the debate on the validity and improvement of existing miscue analysis procedures.

It is difficult to imagine an ideal solution to the problem of identifying and quantifying combined-source errors. However, until some more precise way of discriminating the error-source is developed, it seems important that researchers at least adopt the strategy of reporting the incidence of single and (possible) combined- source errors so that analyses likely to produce inflated frequencies in the categories of graphic, syntactic and semantically-based errors can be identified. The present author, in the study to be described in subsequent chapters, thus adopted the procedure of reporting the percentage of errors likely to have involved the readers' combination of the graphic, semantic and syntactic information provided by the reading material.

A further and final point is also important with regard to the identification and incidence of combined-source errors. If we see successful reading as depending to a large extent on the synthesis of the three different types of information offered by the text - the graphic, semantic and syntactic - we might hypothesise that the combined-source error provides a demonstration of a reader's attempt at such a synthesis. Indeed Biemiller's "third phase" in the use of

graphic and contextual information by beginning readers is characterised by an increase in errors which show a co-occurrence of graphic and contextual constraints (Biemiller 1970). An estimation of the incidence of combined-source errors in any miscue analysis might thus be regarded as a potentially important point of comparison between readers of different proficiency. That is it may give some indication of their capacity for flexibility in synthesising information from the text. Additionally the frequency of the combined-source errors of the same reader, reading texts which vary as regards their difficulty, might also be compared. This might illustrate that readers adopt different strategies for different reading materials. The categorisation and analysis in the present study was designed to facilitate such comparisons both between and 'within' readers.

### 3. Oral and Silent Reading

#### The assumption that oral reading reflects the silent reading process

The premise that oral reading closely parallels silent reading, and that the investigation of oral reading errors can help us to understand the nature of the silent reading process rests on somewhat shaky foundations. This need not necessarily negate the value of oral reading error research but the problem should at least be debated by those who carry out such studies.

Weber (1968) Maclean (1981) and Leu (1982) raise the matter of the relationship between oral and silent reading and express concern at the over-riding tendency of researchers to dismiss, or more usually ignore the issue:

"Because oral responses can be readily obtained, researchers analysing the reading process have turned to them for data. In doing so, they have assumed, not always explicitly, that the process of oral reading approximates the process of silent reading so closely that the two can be considered one and the same."

Weber (1968) p.99.

Maclean (1981), discussing criticisms of miscue analysis procedures and proposing a framework for analysing both silent and oral reading, similarly cautions against the implicit assumption that the reader uses the same strategies in oral and silent reading.

Leu (1982), conducting a review similar to that of Weber but writing fourteen years later relates her misgivings to the matter of whether oral reading error analysis can be used as a basis for making decisions about classroom instruction:

"If it can be demonstrated that oral reading processing is different from silent reading processing (beyond simple mode-of-production differences), one cannot make strong claims for instructional programs based on analysis of oral reading errors. This is true because the goal of most instructional programs is effective silent reading, not effective oral reading."

Leu (1982) pp.431-432.

There is thus a need for some concern over this issue of the similarities or differences between oral and silent reading and there are at least two pertinent questions to be considered when debating it:

1. Are the processes of silent and oral reading "the same" - or so closely aligned that they may be regarded as such?
2. How valuable is oral reading error analysis in helping us to understand the whole process of reading in the light of the conclusions which may be drawn as regards question 1?

# 1. Are the processes of oral and silent reading the same?

In reviewing the research on oral reading error analysis neither Weber (1968) or Leu (1982) found convincing evidence for the assumption that identical processes are involved in silent and oral reading.

Weber considered the early findings on this issue from the work of such researchers as Swanson (1937) and Gilmore (1947). Both reported positive correlations between oral innaccuracy and silent reading comprehension. However, Weber questions whether evidence of correlations between aspects of the overall product of the reading task really support the hypothesis that the central processes involved are identical.

Similarly, Leu (1982) found little evidence to support the assumption that observations of oral reading can be used to infer the nature of silent reading. Leu does, however, refer to the work of Beebe (1980) whose study did consider this problem. She drew the conclusion that an analysis of oral reading errors is an effective way of inferring the kinds of miscues that occur in silent reading. This conclusion was based on her finding that comprehension and story retelling scores were predictors of the percentage of acceptable miscues and the percentage of corrected miscues. Generally speaking the more SUBSTITUTION miscues a child made the lower his comprehension and retelling scores. However, there is some doubt about the generalisability of her results in view of her narrowly selected sample, (all boys). Her study will be considered in more detail in the following chapter.

Nevertheless Leu adds that more adequate pictures of silent and oral reading are needed before researchers can conclude that the two modes share similar central processes.

Further criticism of the tendency of researchers to assume, uncritically, that silent and oral reading are "the same" is offered by Maclean (1981) who points out that unlike oral reading which emphasises a forward-moving process, silent reading offers the opportunity for the reader to re-read and re-check the information. She quotes Newman (1978) who argues that silent reading allows a reader more time to think and rethink. This point is paradoxical in the sense that we know proficient readers can read, with adequate comprehension, far more words per minute than they would be able to speak, (or listen to) in the same time. However, if as Mattingley (1972) suggests, the fast reader omits certain stages of processing so that graphic symbols can be encoded into messages which bypass the use of sound and listening, the notion of 'extra time' in silent reading seems tenable.

Pugh (1978) makes a similar point to that of Mattingley:

"The view of the reader as a playback device or as a mere receptor of other men's words is restrictive, and in true silent reading he is not obliged to read in this way.... The skilled adult silent reader is not involved necessarily in a linear and sequential process akin to listening or to oral reading."  
Pugh (1978)

Quite what Pugh means by "true silent reading" is less than clear but marshalling the evidence it seems apparent that the weight of opinion rests on the view that oral and silent reading display more differences than similarities. Why then is the majority of oral reading error researchers convinced that a) the opposite is true; or

b) the problem, if it is a problem, need not be acknowledged? The answer to both these questions can be summed up in one approach - the approach of Goodman.

For approximately twenty years Kenneth S. Goodman has been just about the most ardent and influential proponent of oral reading error research, or, as he prefers to call it, "miscue analysis". Whilst his work deserves special consideration in any review of the research literature on reading, his view of the processes involved in the task is especially pertinent to the question of why the majority of oral reading error researchers make the implicit assumption that oral and silent reading are "the same". It is not so much that Goodman states explicitly that they are the same, nor that miscue researchers are unconsciously seduced into thinking so by his neat and oft-quoted "window on the reading process" argument - rather it is his emphatic refusal to accept that reading, any reading, oral or silent, is a precise, sequential word-by-word identification process. It is in rejecting this view of reading that the distinction between the oral and silent modes become blurred. For Goodman, Pugh's argument that "the skilled adult reader is not involved necessarily in a linear and sequential process akin to listening or oral reading" is redundant - it grasps the stick by the wrong end since, for Goodman, a "linear and sequential process" is not "akin", either to oral reading, or, for that matter, to listening.

"The ability to anticipate that which has not been seen, of course, is vital in reading, just as the ability to anticipate what has not been heard is vital in listening."

Goodman (1967)

The point at issue here is surely that in order to make a distinction between oral and silent reading, or in order to debate the difference, one has first to agree on some precise definition of what we mean, or what researchers mean, by 'oral reading'. If, by oral reading we refer to an exact error-free and clearly enunciated rendition of every word of the text - a reading 'performance', akin to that given by an actor performing a Shakespearean audition piece, that is one thing. If, on the other hand we use the term 'oral reading' to refer to an individual's attempt to orally respond to a graphic display ("patterned inkblotches" Goodman (1969) calls it) in an attempt to reconstruct the meaning of the author's message, then that is quite another. The first 'oral reading', (the Shakespearean) is perhaps truly 'oral' in that a large part of the reader's attention is directed towards the oracy; the performance is not so much a 'reading' as an 'oration' (Iambic pentameter and gist reading not being compatible!) The second oral reading, (the reconstruction) is one in which the reader is engaged less in oration and more in search after meaning. In this case departures from the verbatim text - omissions, insertions, substitutions - need not disrupt its 'sense', indeed they may enhance it. The point surely is this: there is oral reading, and then there is oral reading; and how closely this observable parcel of behaviour reflects the silent reading process rather depends. It depends on the nature of the particular oral reading to which we refer and to what we view as that reading's objective. What seems clear is that Goodman, not wishing to make a distinction between reading aloud and reading silently uses the phrase 'oral reading' to indicate one end-product, and Weber (1968), Pugh (1978) and Leu (1982) wishing to indicate the possibility that a distinction does exist, use it to refer to quite another. The crucial point - the crunch - as far as oral reading error research is

concerned is this: does the miscue data stem from an 'oration' or a 'reconstruction'? If 'oration', what value can be placed on the use of a miscue analysis to make inferences about 'reconstruction'. i.e. reading for meaning, let alone silent reading? This is a point to which we shall return.

So, is oral reading the same as silent reading? Goodman's oral reading surely is, though he is usually careful not to say so:

"This article presents a psycholinguistically based analysis for use in the study of oral reading....the goal being to describe what happens when a reader, at any stage of proficiency, reads orally."

Goodman (1969)

However, it is apparent from Goodman's writing that he views silent reading as a more efficient extension of oral reading, an extension in which the central processes involved are regarded as essentially the same. In his 1967 paper, in which he introduces the notion of reading as a "psycholinguistic guessing game", he makes this view explicit. The paragraph is worth quoting in its entirety:

"Skill in reading involves not greater precision, but more accurate first guesses based on better sampling techniques, greater control over language structure, broadened experiences and increased perceptual development. As the child develops reading skill and speed, he uses increasingly fewer graphic cues. Silent reading can then become a more rapid and efficient process than oral reading, for two reasons: 1) the reader's attention is not divided between decoding and recoding or encoding as oral output, and 2) his speed is not restricted to the speed of speech production. Reading becomes a more efficient and rapid process than listening, in fact, since listening is normally limited to the speed of the speaker."

Goodman (1967)

If we accept the view of oral reading put forward by Goodman, and by Smith (1973, 1978) - that it is not to be regarded as precise,



sequential word-by-word process but that it involves the reader interacting with the text in order to form psycholinguistically based hypotheses which stem from the graphic, semantic and syntactic information it offers - then we are perhaps more likely to also accept the view that the oral and silent reading processes do not differ significantly. What transpires is that much of the disagreement over the issues of similarities or differences in reading aloud and reading silently stem from confusion over what is meant by the term 'oral reading'.

Nevertheless there is, as Weber (1969) Maclean (1981) and Leu (1982) point out, a need for some concern over the issue and it is a need which has not been met by the reluctance of the majority of oral reading error researchers to acknowledge it. Indeed, of the twenty or so studies considered in the following chapter only one researcher, Beebe (1980), gives attention to the possibility that oral and silent reading are not "the same" and that miscue analysis of oral reading errors may therefore provide only a partial picture of the reading process.

## 2. How valuable is oral reading research in helping us to understand the whole process of reading?

Oral reading error analysis is a time-consuming and painstaking affair and it is perhaps small wonder that researchers do not detain themselves by debating the vexed question of similarities and/or differences between oral and silent reading. This would be to run the risk of limiting the interpretation of their findings before they have been found! Whether or not this omission has led to an over-assessment of the value of analysing errors remains something of an open question - not least because in attempting to investigate the

reading process we are forced to make inferences about behaviour which is not directly observable. When children read silently, or when their oral reading is error-free, it is very difficult to discover the strategies they use. As Downing (1979) remarks 'our ignorance about how children read is still enormous, despite all the research that has been carried out' and it is probably dangerous to assume that the strategies used when reading is error-free are mirrored exactly in the behaviour which is observable when an error is produced. As an analogy we might compare the erratic behaviour displayed by a learner-driver with the fluency and simultaneity of skill displayed by the accomplished road-user. Nevertheless, by observing and recording oral reading errors we can at least make some inferences about readers' use of the graphic, semantic and syntactic cues provided by the text as they attempt to translate its meaning from print into speech. It is thus the present author's view that despite the methodological problems reviewed above, oral reading error research can be extremely valuable in helping us discover something about the process of reading. However, perhaps even more can be learned if the study of errors is complemented by an investigation of other aspects of reading-related behaviour - for example, by the investigation of readers' metalinguistic knowledge and their own perceptions of their reading ability and problem-solving strategies. The present thesis describes such a study conducted with 52 Secondary school 'remedial' readers. The aims of this study are outlined in the following chapter and placed within the context of a selected review of the findings of previous oral reading error researchers. A subsequent chapter (Chapter 17) considers the information presently available concerning readers' metalinguistic knowledge.

## CHAPTER 2

### ORAL READING ERROR STUDIES: THE AIMS OF THE PRESENT STUDY SET IN THE CONTEXT OF EXISTING RESEARCH

In this chapter oral reading error research at different levels of investigation will be categorised and described and the findings of various authors considered. The chapter will also outline the aims of the present study and place them within the context of the information currently available.

The final section of the preceding chapter, having debated the issue of the similarities and differences between silent and oral reading, presented the view that the differences between the two modes probably outweigh the similarities. This being the case it must be acknowledged that any information about the process of reading which is gained solely from oral reading error research will present not a full, but a partial picture of what happens when we read. A partial picture can nevertheless be of value. Indeed it is difficult to envisage any single method of enquiry in any research field which promises to tell 'the whole truth' about its subject area. Thus any one research method (to borrow and revise Goodman's analogy) might be seen as a 'window' which offers a limited view of events, seen from a certain perspective, by an outside observer with preconceived notions about how that sequence of events might develop. Oral reading error analysis, as a single research method, is no different - but it can be valuable in helping us understand something about the whole process of reading.

The central value of oral reading error research, for the present author at least, has to do with what might be called its 'reader-centred' approach: reading errors can be considered in a positive way with the implicit assumption that a reader's deviations from the text can tell us much about what a particular reader can do, as well as what, in some situations, a reader cannot do (e.g. readers utilise information from the linguistic context in some situations but not in others).

Leaving aside, for the moment, all the methodological problems mentioned in the previous chapter, an impressive list of benefits which might be derived from misuse analysis can be drawn up. Additionally, a review of some of the existing oral reading error studies will be presented in the following pages in order to discover the progress which has been made and the problems which are still to be investigated. A list of beneficial lines of enquiry which might be pursued through oral reading error research can be formulated in terms of several different levels of investigation and analysis. However, before proceeding it must be emphasised that such existing studies that could be traced by the present author provided only limited information which related directly to the oral reading performance of **Secondary** school children with reading difficulties (but see the discussion of the work of Kibby (1979) below). This being the case it seems appropriate to conclude each section of the following literature review with some indication of the aims of the present author's study and how it may extend existing knowledge. The overall aim was to provide descriptive information about the reading strategies and metalinguistic knowledge of the 52 11-year-old remedial readers who participated.

Table 2.1 presents a list of five lines of investigation which might be pursued by oral reading error research. Each level of enquiry will then be considered in terms of the existing research and the corresponding aims of the present author's study.

Table 2.1      Levels of investigation which might be pursued by oral reading error research

<u>LEVEL OF INVESTIGATION</u>	<u>FOCUS OF RESEARCH</u>
DESCRIPTIVE	number of errors and relative frequency of error types
DEVELOPMENTAL	qualitative nature of errors and readers' developing use of semantic, syntactic and graphic information
CONTEXTUAL	the reader's use of the cues provided by the linguistic context
TEXTUAL	the interaction between the reader's errors and text difficulty, text layout, writing style, etc.
INTERACTIONAL	the possible relationship between oral reading errors and other aspects of a reader's language skills and experience.

Several of the studies to be considered as this chapter proceeds provide information at more than one of the levels of investigation listed in Table 2.1. For example Biemiller's well known study (Biemiller, 1970) provides information at the DESCRIPTIVE and CONTEXTUAL level though its focus is DEVELOPMENTAL. Other studies also adopt a dual perspective. The work of Kibby (1979), for example, although it investigates the oral reading strategies of 'disabled' readers, focuses on the effects of passage difficulty and has thus been included under the TEXTUAL heading in the following sections of the review. Finally, it must be mentioned that the error

strategies, reading materials, and size and nature of the samples vary considerably between researchers and that these differences require the particular attention of the reader when an attempt is made to summarise and compare findings. It is for this reason that a number of 'study-profile sheets' are included at appropriate points throughout the sections which follow. The purpose of these sheets is to aid clarity by providing a concise overview of the studies concerned in terms of their aims, sample sizes, materials etc. As mentioned above the aims of the study undertaken by the present author will also be included at the conclusion of each section of the literature review although these will be reassembled in a more accessible form at the beginning of Chapter 3.

## 2.1 The DESCRIPTIVE level of investigation

At a general DESCRIPTIVE level of investigation oral reading error research has value since it can provide more than just a measure of reading competence which we might call 'accuracy'. Errors can be categorised in terms of their relative frequency and a descriptive analysis performed to reveal general tendencies in a child's reading behaviour. For example do REFUSAL (or NON-RESPONSE) errors feature largely in the error-profiles of beginning readers? What is the incidence of INSERTION and OMISSION errors? etc. Information of this nature obviously needs to go hand in hand with information regarding what different types of errors might reveal about the reading process. Nevertheless, it seems important that we have some normative data at the DESCRIPTIVE level upon which to base further analysis of the oral reading errors of readers at different

ages and stages. It is only then that we can begin to investigate how patterns of error response might be affected by the developing skill of a reader, by different methods of instruction, by different degrees of textual difficulty etc. The information currently available at the DESCRIPTIVE level will be considered below with reference to the work of particular authors.

### Current information at the DESCRIPTIVE level

Research from which this type of information can be gleaned has largely concentrated on the categorisation and analysis of the errors of beginning readers (Biemiller, 1970; Weber, 1970). The issue of patterns of error-response is complicated by the lack of consistency between researchers concerning categories of error and how these are defined (see Chapter 1 above) but the general findings can be summarised as follows:

- \* Young readers show certain patterns of response in terms of the frequency of certain error types with the majority of errors falling into the SUBSTITUTION category.
- \* Apart from the finding that beginning readers in the very early stages of instruction show a large proportion of NON-RESPONSE errors their error-profiles do not appear to be very different from those of older more advanced readers.

A more detailed critical appraisal of these gross findings can now be attempted where special reference will be made to the work of

Biemiller (1970) and Weber (1970) in order to illustrate some of the problems of the definition of error categories. Study-profile sheets giving details of the work of these two authors are included at appropriate points below.

Biemiller (1970) proposed what has generally been accepted as convincing evidence for a 'three-phase' model of error-responses in the acquisition of reading over the first year of schooling. The model shows readers moving away from an initial phase where SUBSTITUTION errors predominate, into a second phase characterised by a predominance of NON-RESPONSE errors, and then into a third phase where SUBSTITUTION errors are again found to be the most frequently occurring type of miscue.

As 'profile-sheet' 1 shows, Biemiller used 4 categories of miscue and obtained data from observations made during classroom reading sessions over a period of 1 school year. However, a close examination of his research paper reveals some difficulty in ascertaining the actual frequency of errors falling into each category as the children's reading ability developed. This is because the 'contextually acceptable errors' in the last three categories (SUBSTITUTIONS, INSERTIONS, OMISSIONS) were pooled and summed as 'contextual errors' for the purpose of analysis. In other words no information is available concerning the actual proportion of each of these three error types to all errors, nor do we know the proportion of SUBSTITUTIONS, INSERTIONS and OMISSIONS which were not regarded as 'contextually acceptable'. This is unfortunate since it means Biemiller's findings cannot easily be compared with those of other researchers regarding the relative frequency of error-types and the rather confusing picture which their data presents. This is



AUTHOR

BIEMILLER, A. (1970)  
'The development of the use of graphic and contextual information as children learn to read'

PURPOSE OF STUDY

To investigate changes in the use of contextual and graphic information as children begin to read.

AGE OF READERS

6 year olds

SAMPLE SIZE

42  
(studied over 1 school year)

BACKGROUND INFORMATION

All non-readers at commencement of study:  
1 group - 'middle class' (n 22)  
1 group - 'poor backgrounds' (n 20)

MATERIALS

Text from reading programme  
4 passages of 'graded difficulty'

MISCUE CATEGORIES

NON-RESPONSE: SUBSTITUTIONS;  
INSERTIONS; OMISSIONS

FINDINGS

Three phases of reading development were identified:  
1) context-using; 2) non-response; 3) concurrent use of graphic and contextual information. The children shifted through these phases as reading proficiency increased. Children who stayed longest in the early 'context-using' phase were uniformly the poorest readers at the end of the school year.

particularly the case with regard to the distribution of INSERTION and OMISSION errors and these will be discussed first below.

Weber (1970) reports 9.2% of all errors as INSERTIONS, 8.5% as OMISSIONS, and 79.9% as SUBSTITUTIONS. (The remaining 2.4% fall into her SCRAMBLES category and this, coupled with other differences in her definition of error types makes an absolute comparison of the distributions impossible - but some general conclusions can be drawn).

By contrast, as Weber reports, early researchers such as Madden & Pratt (1951) and Malmquist (1958) found INSERTION and OMISSION errors to be far more frequent. Again by contrast, Cohen (1974-75) found these two types of error to be 'too infrequent to merit analysis'. (Cohen's work will be considered in more detail later in this chapter).

In summary, as far as the incidence of INSERTION and OMISSION errors is concerned it must be concluded that we have a picture which is far from clear, although the available information suggests that these two types of errors, taken together, account for less than 20% of all errors of beginning readers. However, a further problem which exists in estimating the frequency of OMISSION errors centres around the distinction made by authors between this type of error and NON-RESPONSE (or REFUSAL) errors. It is not always clear whether such a distinction has been made and thus the general finding that beginning readers' error-profiles contain larger percentages of NON-RESPONSE errors than do the error-profiles of more proficient readers becomes rather blurred.

AUTHOR

WEBER, R.M. (1970)  
'A linguistic analysis of first grade  
reading errors'

PURPOSE OF STUDY

To assess children's reliance on the  
various sources of information from the  
text by focussing on the degree to which  
errors were similar to correct responses  
in terms of graphic, semantic and  
syntactic appropriateness.

AGE OF READERS

6 year olds

SAMPLE SIZE

21  
over 1 school year

BACKGROUND INFORMATION

'High' and 'low' achievers identified  
on the basis of teacher grouping.  
Mean I.Q. score - 109.2.  
Children from a variety of backgrounds.

MATERIALS

Text from basal readers plus  
supplementary stories.

MISCUE CATEGORIES

SUBSTITUTIONS; OMISSIONS;  
INSERTIONS; REVERSALS/SCRAMBLES

FINDINGS

The miscues of the better readers showed more graphic similarity  
to the target words. Both good and poor readers showed use of  
their linguistic structure on the syntactic level. Errors  
which were semantically appropriate were usually syntactically  
appropriate. Generally children brought their knowledge of spoken  
language to bear on the reading task 'from the very beginning'  
and 'without effort'.

To take an example there is some confusion as to exactly how the NON-RESPONSE errors in Biemeller's study were counted (Biemeller, 1970). Ultimately it is not clear whether OMISSION errors were included in the count of NON-RESPONSE errors although his description of error categories at first points to a clear distinction between these two types of miscue:

"NON-RESPONSE errors (Child stops reading just before a word it is assumed he does not know)"

"OMISSIONS: (Child skips a word in a sentence)"

(p.81)

At this stage of the report the OMISSION errors are clearly categorised as one of three types of 'response errors' - the other two types being INSERTIONS and SUBSTITUTIONS. However, later (p.86) the distinction between OMISSIONS and NON-RESPONSE errors becomes blurred:

"In October, 16 children were making predominantly NON-RESPONSE errors (including OMISSIONS)."

This rather confusing picture may or may not have any final bearing on Biemiller's finding that an increased frequency of NON-RESPONSE errors characterised a 'second phase' in the acquisition of reading but it would have been helpful to have had some indication of the percentage of NON-RESPONSE errors occurring during this phase which had originally been classified as OMISSIONS.

Other researchers (Y. Goodman, 1970; Weber, 1970) also make no distinction between NON-RESPONSE and OMISSION errors. Goodman counts any word not read, whether 'skipped over' or actually 'refused' as constituting an OMISSION and Weber, though she does acknowledge that a distinction exists between omitted words and 'failures to respond' decides to ignore this latter kind of error:

"Failures to respond to a word without prompting were (also) ignored, though their occurrence may be very significant". (p.443)

That the distinction between OMISSIONS and REFUSALS may indeed be important in terms of providing an accurate picture of beginning readers' patterns of response is apparent from the work of Cohen (1974-75) who, making this distinction, observed a predominance of NON-RESPONSE errors (47%) during the first four months of her subjects' reading instruction. This figure fell to 27% during the four months which followed. Had the two categories of error been combined this finding would have been much less clear since, as mentioned above, Cohen found the incidence of OMISSION errors 'too infrequent to warrant analysis'.

Summing up the information available concerning patterns of the incidence of INSERTION, OMISSION and NON-RESPONSE errors it seems fair to conclude that there is little that can be concluded in a satisfactory way. Apart from Weber's clear statement that OMISSIONS and INSERTIONS taken together account for about 20% of all errors (but 'all errors' here do not include NON-RESPONSES) and Cohen's finding that NON-RESPONSES predominate at 47% in the early stages of reading instruction there is little clear indication of the precise

distribution patterns of the three categories of error so far considered.

There is a general consensus that SUBSTITUTION errors predominate in the error-profiles of young readers - this despite the fact that the error classification systems used by authors vary, reading materials differ, and the ability levels of the children concerned may or may not be the particular focus of interest of different researchers. As stated above, Weber (1970) reports 80% of all errors to be SUBSTITUTION errors, and from the information available this appears to be a fairly representative figure. For example, although Biemiller (1970) gives no direct indication of the percentage of all errors which fell into his SUBSTITUTION category a close examination of his data suggests that in the three 'phases' of reading development which his model proposes, the percentages of 'response errors' classified as SUBSTITUTIONS were 89%, 90% and 88% respectively (calculated from Tables 2 and 3, p.88).

A literature search revealed only one clear example of a study which presents findings which conflict with this general trend that SUBSTITUTION errors far outnumber other types of errors. This was the study by Cohen (1974-75) (mentioned above) whose purpose was to observe trends in the errors of beginning readers taught by a particular (phonic) instructional method. Cohen subdivided her SUBSTITUTION category into 'NONSENSE' and 'SUBSTITUTION' errors but collapsing the data from these two categories (since for the purpose of this 'gross' comparison NONSENSE errors are actually substitutions of a non-word for a real word) it seems that during the first four months of reading instruction SUBSTITUTIONS accounted for only 17% of all errors. However, by the end of the eighth month this frequency

had increased to 61%. (Calculated from Table 2, p.630) Cohen's research, focussing as it did on the effects of a phonics instructional method, thus adds a caveat to the general finding that SUBSTITUTIONS account for approximately 80% of all errors for readers at different ages and stages. That this general finding nevertheless holds true is no doubt responsible for the tendency of a good many oral reading error researchers to concentrate on SUBSTITUTION errors to the exclusion of other types of error. (Burke, 1976; Francis, 1977; Thomson, 1978; Beebe, 1980; Juel, 1980; Potter, 1980, 1982, 1983; Murray and Maliphant, 1982; Hudson and Howarth, 1983). The work of these authors will be considered as this chapter proceeds since the focus of their studies varies to include the several different levels of investigation presented in Table 2.1 above. First, however, some concluding comments must be offered regarding patterns of error-response apparent from the research considered above and then the DEVELOPMENTAL aspects of the authors' findings must be considered.

Generally speaking it can be concluded that, whilst we have an idea of the overlying trends in the types and frequencies of errors made by young readers, a precise indication of the overall pattern of their miscues is much more difficult to infer than it might at first seem. In part this is no doubt because authors feel that a picture of reading errors, painted in such broad strokes as frequency counts allow, can tell us little about the complexity of behaviour involved in reading acquisition. In other words researchers have been more concerned to investigate subtler and more informative aspects of oral reading errors in the hope that this will reveal more about the process of reading than simple frequency counts can do. Whilst this is as it should be, it nevertheless seems unfortunate that reliable

comparative data about error-types and their frequencies is still not readily available after almost two decades of miscue analysis. It also seems surprising that little attention has been paid to children of secondary school age who are experiencing reading difficulties. For example, the present state of knowledge does not even allow a comparison of the frequencies of their REFUSAL and SUBSTITUTION errors - it may be that their reading error profiles are characterised by a much larger proportion of REFUSAL errors than those of younger and/or 'more average' readers. On the other hand INSERTION and OMISSION errors may account for a much larger proportion of errors than the (combined) 20% suggested by Weber's 6 year olds (Weber, 1970).

In the initial stages of error analysis in the present author's study of 11 year old 'remedial' readers (to be described in Chapter 3) four discrete categories of error - REFUSALS, INSERTIONS, OMISSIONS and SUBSTITUTIONS are considered. Each category of error is clearly defined and the percentage of errors falling into each category is presented before further analysis is attempted. Thus the aim of the study at the level of DESCRIPTIVE information was as follows:

AIM: to provide a DESCRIPTION of the relative frequencies of REFUSAL, INSERTION, OMISSION and SUBSTITUTION errors by 11 year old 'remedial' readers on three types of text.



## 2.2 The DEVELOPMENTAL level of investigation

At the DEVELOPMENTAL level of investigation oral reading error research can examine the patterns of reading errors shown by children of different ages and stages or over a period of time in order to provide information about how reading proficiency develops.

Such information could undoubtedly be of importance to teachers in attempting an early diagnosis of reading problems. For example, if normally progressing young readers in the early stages of reading instruction could be shown to pass quickly from a phase where NON-RESPONSE errors were predominant to a phase where SUBSTITUTION errors showed a dramatic increase (or indeed vice versa) teachers could alert themselves to children whose reading error profiles did not match this model of typical progression and early extra help, or help of a different kind, might be provided.

### Current information at the DEVELOPMENTAL level

Whilst there is not as yet a great deal of information available that illustrates the DEVELOPMENTAL aspects of reading acquisition through oral reading error research certain general findings may be summarised as follows:

- \* Beginning readers in the first months of reading instruction appear to pass through phases where the relative frequency of different types of error is seen to change.

- \* Beginning readers bring to the reading task their experiential knowledge of the structure of oral language and quickly begin to utilise the graphic, semantic and syntactic cues provided by the text.
- \* There is an improvement in the 'quality' of SUBSTITUTION errors with age and/or reading ability. Older children, or good readers compared with poor readers, appear more capable of using all three types of information from the text.

These general findings can now be more closely examined with particular reference to the work of Biemiller (1970, 1977-8), Weber (1970), Burke (1976, 1977), Cohen (1974-5), Murray and Maliphant (1982) and Harding, Beech and Sneddon (1985). Study-profile sheets providing details of the work of these authors are included in the text at appropriate points.

Turning first to the finding that the oral reading error profiles of beginning readers illustrate developmental phases the work of three authors, Biemiller (1970), Weber (1970), and Cohen (1974-5) can be considered. Biemiller's 1970 study has already received some attention above and his finding that 6 year old beginning readers' errors illustrate three developmental phases of reading acquisition: the 'contextual', the 'non-response error' and the concurrent 'graphic and contextual' phase is well known. Biemiller suggested that the early contextual phase, where readers make haphazard guesses at words, was an attempt by the children to avoid using the still-mysterious graphic information wherever possible, whereas the subsequent non-response error phase was additionally characterised by an increase in errors which were

graphically constrained. Presumably this was because, after a few months' reading instruction, the children were aware that there should be some graphophonic similarity between the written and spoken word. During the third phase the reading errors of the good readers at least showed the children becoming more proficient at combining the graphic and contextual information. Biemiller explained this by suggesting that as readers' mastery of graphic skills increased they could turn more of their attention to following the content and structure of the text.

Biemiller's study is extremely interesting in as much as it suggests that an increase in non-response errors after some months reading instruction might be taken as a positive rather than a negative sign of reading progress, and that a reader's early attempts to make use of the linguistic context should be closely monitored rather than indiscriminately encouraged as a sign of the reader approaching the reading task as a 'language user' (to borrow Weber's phrase). Biemiller's findings suggest that readers may stay too long in this early context-dependent phase and 'fixate' on such strategies to the detriment of the mastery of graphic skills.

"The longer he stays in the early context-emphasising phase without showing an increase in the use of graphic information, the poorer a reader he is at the end of the year". (p.95)

Biemiller's somewhat radical conclusion is that the teacher should do a considerable proportion of early reading in situations where no context at all is provided:

"in order to compel children to use graphic information as much as possible" (p.95)

However, there is something of a problem in the Biemiller study in the sense that no control was possible over the reading materials presented to the children during the important 'first step' of data collection when the oral reading errors were observed and recorded, i.e. observers recorded errors from 'basal readers' in two schools during classroom reading sessions. Although both schools apparently used the same reading programme the observers had no control over particular texts read by particular children. We do not know anything about the difficulty of the texts from which the miscue analysis data was collected but it seems fair to assume that any text is likely to present more difficulty to some 'non-readers' than to others - particularly when the children are drawn, as Biemiller points out, from very different backgrounds. (One school was in a "middle class" urban community, the other in a rural community where nearly all the children came from "poor or poverty stricken backgrounds".) There is no way of knowing whether this lack of control over text difficulty did in fact affect the results but this does seem possible. For example, if during the course of study, a child was asked to read what was (for him) a difficult text it seems possible that the context-emphasising errors (phase 1) might persist longer than would be the case if the text had been easier. Similarly the persistent 'non-response' errors observed in Biemiller's phase 2 could have been, in part, a function of text difficulty - given an easier or more suitable text the same child might have exhibited phase 3 errors. As mentioned above there is no way of knowing whether or not this was the case but some more rigorous control over textual materials would obviously have been advantageous. In a later

study, (Biemiller, 1979) passage difficulty was carefully controlled as were the stimulus materials used by Mingay (1977) and Kibby (1979). These studies will be reviewed in a later section of this chapter under the heading TEXTUAL information.)

Before considering in more detail the 'developmental' findings of Weber (1970) and of Cohen (1974-5) one further problem may be raised in connection with Biemiller's study. This concerns the assumption that 'non-reading' can be regarded as a single state and that non-readers do not differ significantly in terms of their experience with print and in their metalinguistic knowledge. It would be unrealistic to expect every researcher who focuses upon 'non-readers' as a starting-point for a study of developmental patterns in oral reading errors to carry out an investigation of the children's prior experience of reading (being read to, handling books etc.). However, it does seem important that such possible differences between 'non-readers' are at least acknowledged in as much as they may have some bearing on the children's progress during the early stages of learning to read. Cohen (1974-5) in the concluding comments of her reported findings concerning developmental patterns of errors in (initial) 'non-readers' does acknowledge this issue. In the case of Biemiller's study where the children were drawn from such different backgrounds some reference to the possible effects of prior-experience would have been particularly appropriate.

Weber (1970) studied the oral reading errors of 21 six year old readers over the period of 1 school year using texts from basal readers and supplementary stories, and in this sense her study was similar to that of Biemiller (1970). However, Weber provided details of the children's I.Q. scores and, rather than taking the

'non-reader' as her starting point, identified 'high' and 'low' achievers on the basis of their ability to proceed through pre-reading instruction during the first month of schooling. Weber did not attempt to identify 'phases' of reading development through her observation of errors but reported that the errors of the better readers showed more graphic similarity to the target words than those of the poorer readers. Whether this increase in graphic similarity was accompanied by an increase in non-response errors at some stage (i.e. like Biemiller's better readers in his 'phase 2') cannot be ascertained since Weber did not include this category of error in her inventory. (See study profile sheet 2).

However, she did report some evidence for an inverse relationship between the use of graphic information and grammatical context - a finding which is compatible with Biemiller's 'phase 2' observations. Another finding which is of interest in attempting to compare the two studies is that Weber (like Biemiller) found "little support for the notion that even beginners read sentences word by word." Errors which were semantically appropriate were usually syntactually appropriate and generally the children were observed to bring their knowledge of spoken language to bear on their oral reading performance from the 'very beginning'. Weber's study only very slightly precedes that of Biemiller and it is interesting to note that whilst there is much general similarity between the findings (despite the problem of the use of different categories of error, etc.) the results are interpreted quite differently. Biemiller, because he identified too long a stay in the early context-using phase as detrimental to future progress in the utilisation of the use of graphic information, viewed the child's ability to "bring to bear existing knowledge" as rather a double-edge

sword, and, ultimately (as noted above) advocated its discouragement in the case of some readers. Weber, on the other hand, like the majority of oral reading error researchers, viewed this ability in a more positive light. It seems likely, however, that any conflict in views as to the advocacy or otherwise of allowing beginning readers free reign in terms of the utilisation of their existing knowledge of the structure of language stems from a conflict of methodology in oral reading error research. Biemiller's findings concerning phases of reading development and the negative aspects of the use of contextual materials in early reading instruction have not been replicated despite attempts to do so by researchers such as Dodd (1982) using the same paradigm. Consequently the notion of 'compelling' children to use only graphic information by presenting them with isolated words (and withholding contextual material from them until "they show evidence of doing so") remains a radical suggestion based on somewhat shaky foundations.

Having said this, Cohen's study of the oral reading errors of beginning readers (Cohen, 1974-5) is sometimes reported as having "effectively replicated Biemiller's findings" (Stuart-Hamilton, 1986). However, a close comparison of the two studies shows that this is not the case. It is correct that Cohen observed a developmental trend in oral reading errors over the first 8 months of reading instruction. However, the 50 children who took part in her study did not, apparently, display Biemiller's early "context-emphasising" phase (phase 1). By contrast they were shown to make predominantly 'non-response' errors (corresponding to Biemiller's phase 2) during the early weeks of instruction. (See study-profile sheet 3.) Moreover, Cohen was particularly interested in possible differences in error types according to whether children

**AUTHOR**

COHEN, A.S. (1974-75)  
'Oral reading errors of first grade children taught by a code emphasis approach'

**PURPOSE OF STUDY**

To observe trends in the oral reading errors of beginning readers taught by an instructional method which emphasised the blending of letter-sounds. To explore how the teaching method and the actual strategies of the children might vary.

**AGE OF READERS**

6, 7 year olds

**SAMPLE SIZE**

50  
(over 8 months)

**BACKGROUND INFORMATION**

All non-readers at commencement of study. Suburban middle class children. I.Q. data.

**MATERIALS**

Texts prepared from classroom material in consultation with teacher to provide a) an 'instructional' (phonic) text, and b) a 'non-instructional' text.

**MISCUE CATEGORIES**

NO-RESPONSE; SUBSTITUTION; OMISSION;  
INSERTION; SELF-CORRECTION;  
SOUND-OUT; DON'T KNOW; NONSENSE.

**FINDINGS**

The three most common errors were NO-RESPONSE, NONSENSE and SUBSTITUTION. OMISSION and INSERTION errors occurred too infrequently to warrant analysis. Initially NO-RESPONSE errors predominated for all children but 'good readers' quickly moved to a NONSENSE error and then SUBSTITUTION phase. 'Poor readers' showed only a gradual increase in NONSENSE errors and this did not precede the SUBSTITUTION phase but developed alongside it. Poor readers also showed a lack of awareness of oral-to-written word correspondence. Instructional and non-instructional texts produced no differences in error trend.



were presented with an 'instructional' as opposed to a 'non-instructional' text. She found no differences in error-trend according to text type but perhaps the difference in textual materials used in her study as opposed to that of Biemiller could, in part, account for the differences in their findings. Alternatively it could be that the code emphasis approach by which Cohen's children were instructed produced the particular pattern of errors she observed, i.e. Cohen's 'first phase' (though she does not use this descriptive term) appears to be analogous with Biemiller's '2nd phase' during which children began to attend more to the graphic features of the text.

Cohen's findings also differed somewhat from those of Weber (1970) in as much as she reported that the poor readers showed a lack of awareness of oral-to-written correspondence. Again this difference might be accounted for by the type of instruction Cohen's children were receiving (phonics based), the type of texts with which they were presented, or an interaction between these (and other) factors.

The studies by Burke (1976, 1977) also attempted to provide information at the level of developmental trends in oral reading errors. Burke focussed on 7, 8 and 9 year old 'average' readers from three types of school - 'formal', 'semi-formal' and 'informal' - and found that whilst their errors became more similar to the target words with age, no interaction occurred concerning the 'quality' of the errors and the type of school. (See study profile sheets 4 and 5).

AUTHOR

BURKE, E. (1976)  
'A developmental study of children's  
reading strategies'

PURPOSE OF STUDY

To investigate the decoding strategies  
used by children in developing reading  
skills by examining the relative  
importance of their use of graphic,  
syntactic and semantic cues.

AGE OF READERS

7, 8, 9 year olds

SAMPLE SIZE

216  
(1 test session per child)

BACKGROUND INFORMATION

'Average readers' from formal, semi-  
formal' and 'informal' schools.

MATERIALS

Stories from the Neale Analysis Test  
which were deemed to be 'appropriate  
to the child's age'.

MISCUE CATEGORIES

SUBSTITUTIONS

FINDINGS

The 'quality' of miscues was found to improve with age with  
the greatest improvement being for semantic acceptability  
and the least improvement for graphic similarity. The findings  
showed no significant miscue x sex interaction and no significant  
interactions as regards the quality of miscues and the type of  
school..

AUTHOR

BURKE, E. (1977)

'The probing of children's reading strategies.'

PURPOSE OF STUDY

To present a qualitative analysis of the oral reading behaviour of two children. To suggest implications for the teaching of reading.

AGE OF READERS

7 and 9 years

SAMPLE SIZE

2  
(1 test session per child)

BACKGROUND INFORMATION

None provided

MATERIALS

Stories from the Neale Analysis Reading Test - 1 for each child, 'appropriate to the child's age'.

MISCUE CATEGORIES

SUBSTITUTIONS

FINDINGS

Examination of the transcripts of the oral reading session led to the conclusion that the 7 year old girl was responding only to graphic cues provided by the text whereas the 9 year old boy's miscue profile suggested he used semantic and syntactic acceptability as tests of his responses as well as the graphic information.

Some of the methodological problems apparent in Burke's research were addressed in Chapter 1. Apart from the criticisms related to the scoring system employed in the comparison of the children's errors across age groups and schools, Burke provides little information about the actual reading ability of her subjects except to state that they were 'average', and the possible effect of the textual materials (from Neale) receives no attention.

We are told that the children read passages "appropriate to (their) age" - there is no mention of reading age. It seems doubtful that a valid comparison of developmental trends in the nature of oral reading errors - across three age groups and across three types of school - could result from a design in which such little attention was paid to these important details. The large difference in the error-rates of Jane and Richard in the 1977 study were considered in some detail in the previous chapter but it is worth reiterating here that the difference in the 'quality' of their errors may have been a function of the difficulty of the texts which they were asked to read. However, leaving these problems aside, Burke's findings are generally compatible with the overall picture which emerges from other 'developmental' studies: as children become more skilled so their reading errors show an increasing use of the graphic, semantic and syntactic information from the text.

These findings have also been shown in a study by Murray and Maliphant (1982) although they examined children's use of the three types of textual information by means of a cloze-task and an error-detection task rather than by a typical oral reading error analysis. An additional feature of the study, and one which seems to be unique in the literature, was a comparison of the use of

AUTHOR

MURRAY, L. & MALIPHANT, R. (1982)  
'Developmental aspects of the use of  
linguistic and graphemic information  
during reading'.

PURPOSE OF STUDY

To examine the use of syntactic,  
semantic and graphic information by  
first and second year Junior School  
children by means of a cloze task and  
an error detection task. To compare  
the findings with information as  
regards adults' use of contextual  
information

AGE OF READERS

7, 8, 9 year olds.

SAMPLE SIZE

52  
(1 test session per child)

BACKGROUND INFORMATION

Reference to reading test (no data).  
Reading ability rating by teachers.

MATERIALS

Cloze and error-detection tasks based  
on text from children's reading books.

MISCUE CATEGORIES

SUBSTITUTIONS

FINDINGS

The older children used all three types of information (graphic ,  
syntactic, semantic) to a greater extent than the younger on both  
types of task, as did the good readers compared with the poor  
readers. There was no evidence for an inverse relationship between  
the use of graphic and contextual cues. The children's pattern  
of responding to the tasks in relation to the grammatical classes  
of the target words was similar to that of adults as described  
by Kolers (1970).

contextual information by children and adults. The authors reported that the older children in the sample (9 year olds) used the graphic, semantic and syntactic information to a greater extent than did the younger on both types of task, as did the good readers compared with the poor readers in each age group. A second finding was that a similarity between children's responses and those of adults as described by Kolers (1970) was observed (see study-profile sheet 6).

Murray and Maliphant made a particular reference to the need for more information concerning the probable relationship between reading ability and the use of contextual information, particularly with regard to young British readers (p.156). However, a close reading of their paper reveals very little precise information as to the actual reading ability of their subjects - this despite their use of reading tests and teacher ratings. Ultimately no details are provided of the reading ages of children in the three age groups or of any variation within the age bands. This seems an important omission in as much as the same cloze and error-task materials were presented to all the children who took part in the study. These were modified passages from Book 7 of the 'Janet and John' reading scheme (Nesbitt) and from Book 6b of the Ladybird series (Wills and Hepworth). Whilst the authors report that "care was taken to ensure that the passages were appropriate to the reading age of the children" (p.158) it seems obvious that the substituted words (and indeed the whole of the cloze sentences) were likely to be more appropriate for some children than for others, i.e. it seems hardly surprising that faced with the same task the younger and/or poorer readers fared worse in terms of their apparent ability to make use of the textual information. It is of course extremely difficult to make comparisons between groups of children when materials are varied to accommodate their different

reading abilities but this seems necessary unless apparent 'developmental trends' in oral reading errors are to be confounded by issues of the relative ease or difficulty of the task they are asked to perform. (This issue is further debated in Section 2.3 of this chapter and in Chapter 4 below with particular reference to cloze-task procedures and what they can reveal about a reader's use of contextual information.) Studies which have focussed particularly on the possible interaction between the use of contextual information and passage difficulty will be considered in a later section of the present chapter when studies concentrating on readers' use of contextual information have received consideration. However, before concluding the present section, a study undertaken by Harding, Beech and Sneddon (1985) must be mentioned.

Harding, Beech and Sneddon examined the changing pattern of reading errors and reading style which occurs between the ages of 5 to 11 years. Whilst some of their findings were compatible with those of earlier researchers such as Biemiller (1970) and Cohen (1974-75) their study stands alone in reporting a decline in the syntactic and semantic acceptability of oral reading errors with increasing reading proficiency. (See study-profile 7.) The authors explain this result by suggesting that it could be a function of the better readers in the age groups from 7 years onwards who are being "more eclectic" in their reading have moved away from a "reliance" on syntactic cues. There are two problems with this conclusion. First of all it seems highly inappropriate to describe reading proficiency (at any age) as being "reliant on syntactic cues". It is true to say that the authors present data which show that whereas a positive correlation exists between syntactic cues and reading age for the younger age group (5 - 6 year olds) this becomes a negative

AUTHOR

HARDING, L.M., BEECH, J.T.  
and SNEDDON, W. (1985)  
'The changing pattern of reading  
errors and reading style from  
5 - 11 years'

PURPOSE OF STUDY

To examine patterns of reading errors  
over 5 - 11 years as regards the  
extent of their similarity along  
graphic, semantic and syntactic  
dimensions, (Goodman's taxonomy).  
To compare such information with  
any corresponding changes in reading  
style.

AGE OF READERS

5 - 11 year olds

SAMPLE SIZE

140  
(2 test sessions per child)

BACKGROUND INFORMATION

Information regarding ability  
Reading Age data (Schonell)  
Spelling Age data (Schonell)  
Neale Analysis data  
I.Q. data  
Social class information

MATERIALS

Neale test stories  
Reading styles test

MISCUE CATEGORIES

SUBSTITUTIONS; OMISSIONS;  
REFUSALS; PRONUNCIATION ERRORS

FINDINGS

There were increases in the graphic and phonemic similarity of errors up to the age of 8 years. There was a decline in the syntactic similarity of errors as readers became more proficient, and to a lesser extent, in semantic similarity as readers became more proficient from 6 years onwards. There was also a shift from the phonic to the whole-word style of reading. The more proficient readers appeared to be more eclectic generally and capable of using all dimensions of information from the text where necessary.



correlation for the two older age groups. However, a positive correlation of 0.32 between reading age and the syntactic appropriateness of errors surely does not signal reliance on this type of information to the exclusion of all other cues. Reading would be impossible if this were the case. Secondly the authors' attempts to explain any such decreasing "reliance" in terms of the older "better" readers becoming more "eclectic" is not supported by the data which is presented. The data are not sub-divided into "poorer" and "better" readers within each age group so that an explanation such as "the poorer readers have entered the phase of using syntactic information, as the more proficient readers of a younger age had done" (p.49) is inappropriate. There are no data in Table 2 to illustrate that the more proficient readers in the younger age group did this - neither are there data to show that the 'better readers' in the older age group did not. Some examples of the errors of the children concerned would have been helpful in this connection. As it is the findings that reading proficiency is marked by a linear decline in both the syntactic and (to a lesser extent) the semantic information from the text, and the conclusion that "the beginning reader is making great use of syntactic information" but not semantic information (p.51) run counter to the work of Goodman (1973, 1977), Biemiller (1970) and other researchers quoted above. Further research will perhaps clarify this apparent conflict.

A summary of the broad findings at the DEVELOPMENTAL level of oral reading research investigations was presented earlier in this section and some concluding comments which relate to the study carried out by the present author can now be made. First of all it is important to acknowledge that although the 52 11 year old remedial readers who took part in the present study were involved in a total

of 9 data gathering sessions throughout the span of one academic year the study did not attempt a developmental perspective as such. Texts and tasks were different throughout the year so that, for example, a difference in the relative frequencies of error-type observed between the first and second text reading sessions (SELF and PEER-texts) could not properly be attributed to developmental changes in the children's reading skills. (It is worth reiterating here though that this remains a problem for studies which do purport to observe developmental trends by the use of a longitudinal design since it is obvious that the same text cannot be repeatedly used with the same children.) Secondly, however, it can be mentioned that since reading age data were collected at the time of the first and the last text reading tasks these could be used to provide some developmental frame of reference to the oral reading error observations made from the three types of text. It was further assumed that these data would be useful in considering the results of the tasks designed to investigate the children's successful use of contextual information whilst reading the three separate texts.

### 2.3 The CONTEXTUAL level of investigation

At the CONTEXTUAL level of investigation oral reading error analysis can be used to examine the extent to which readers of different ages and stages make use of the information provided by semantic and syntactic cues within written language, and whether or not this is used in conjunction with the graphic information. There is a general consensus amongst reading researchers that as skilled readers we are eclectic in our approach to the reading task, able to make use of what Kolers (1973) has called 'a hierarchy of options'

which enables us to process text by a combination of the use of the graphic, semantic and syntactic levels of information or, when the need arises, by attending to only one or other of these cues.

Nevertheless, over the last 20 years or so a good deal of attention has been paid to the question of whether less proficient readers concentrate on the graphic cues provided by the text at the expense of paying little attention to the contextual sources of information "Contextual information" has been defined by Biemiller (1970) as:

"...information the reader brings to the situation (knowledge of syntactic constraints and the subject matter) and the information he has just read"

whereas "graphic information" is:

"...information one has about letters alone and in series which help identify words".

During the last two decades something of a debate has developed regarding the relative importance of the mastery of the use of these types of information. On the one hand theorists such as Goodman (1973a), Smith (1978) and Kolars (1973) argue that able readers use context effectively whilst "using less and less graphic input". Their view is that effective reading involves reading for meaning - a "top down" process - rather than decoding letters to sound which is often described as a "bottom-up" process. On the other side of the debate it has been argued that it is the ability to make effective use of the graphic information which distinguishes able and less able readers. Biemiller (1970, 1978) and West and Stanovich (1978) adopt this view as does Kolars (1975) (in a change of his position) where he argues that poor readers are characterised "primarily by a

relatively poor ability to analyse and remember graphemic patterns".

Whilst it is useful to attempt to identify the crucial elements of skilled reading in this way there is also the view that even from the very beginning reading is essentially concerned with what Clay (1972) has called "the patterning of complex behaviour". The idea that reading consists of a handful of skills which can be hierarchically taught and learnt is at odds with the view that readers - even beginning readers - are essentially 'language users' and as such can display flexibility and strategy changes according to their existing knowledge, and to the demands made upon them by a particular text. This view presents something of a bridge between the "top-down"- "bottom-up" emphases and there is now a growing awareness that able readers may have certain weaknesses just as less able readers may have certain strengths. The danger of directing too much attention towards the deficits of less able readers at the expense of recognising their relevant skills has been particularly stressed by Clark (1976) in her study of young fluent readers.

Bearing this in mind, research which focusses on readers' use of the CONTEXTUAL level of information is undoubtedly useful since, for one thing it can alert teachers to the complexity of the skills which young readers bring to the reading task. It may be that whilst some children are able to make use of contextual information in some situations they are not always willing to do so in others. Perhaps good and poor readers differ in terms of the flexibility of this competence.

At a more 'micro' level of study at the CONTEXTUAL level of oral reading error research the contributions to successful reading of the

use of the 'preceding' as opposed to the 'succeeding' context have been examined and comparisons made between good and poor readers. Research which focusses on the use of contextual information in terms of DEVELOPMENTAL trends with ability and/or age has already been considered and obviously has relevance for the literature reviewed here. However, the studies to be considered in the present section of this chapter have focussed more particularly on the use of CONTEXTUAL information per se, rather than adopting a particular (developmental/instructional/textual) stance. As such these are considered separately below.

#### **Current information at the CONTEXTUAL level**

Whilst differences between good and poor readers have been the concern of many earlier studies of the use of contextual information the focus of research during the 1980s has moved in other directions. For example Potter, in a series of studies, has been concerned to question the use of syntactic and semantic ability scales based on Goodman's taxonomy; to focus on differential use of the preceding and succeeding linguistic context; and to devise intervention techniques aimed at teaching children to make better use of the linguistic context (Potter, 1980, 1981, 1982, 1983). By contrast Thompson (1981) examined the prediction of Smith (1978) that children reading at a slow rate make little or no use of contextual information, and the prediction of La Berge and Samuels (1974) that children who are not skilled in the use of graphic cues are able to make little use of contextual cues. Another strand in the investigation of the use of contextual information is evident in the work of Hudson and Haworth (1983) who looked at 'dimensions of word recognition' by placing words from the Schonell test in meaningful contexts and observing 8

year olds' responses. A final study which can be mentioned, since it illustrates yet another line of enquiry, is that undertaken by Browne (1985) who combined her observations of readers' use of contextual cues with an attempt to measure their attitudes towards reading. Each of these studies will receive further consideration below and are presented in outline through study-profile sheets at appropriate points in the text. Initially, however, some of the broad findings of oral reading error research which has presented information at the CONTEXTUAL level can be summarised as follows:

- \* There is a general consensus that from the very early stages of reading instruction beginning readers are able to make use of the contextual information provided by the text.
- \* There is conflicting evidence as to whether good and poor readers differ in their ability to utilise contextual cues.
- \* There is a growing awareness that a combination of factors can operate upon the reader's ability to make use of contextual cues in different reading situations.

Evidence which suggested that beginning readers use contextual information from the very early days of their experience of written language was discussed in an earlier section of this chapter when studies oriented towards the DEVELOPMENTAL level of investigation were reviewed (Biemiller, 1970; Weber, 1970; Cohen, 1974-75). A further study which is of interest here in as much as it focussed on 'young fluent readers' who entered school with a Schonell-based reading age of 7 years 6 months, is that undertaken by Clark (1976). In an intensive analysis of children who read early Clark presents a

great deal of detailed information about the children's attainment on starting school - spelling, writing, arithmetic, auditory discrimination abilities - as well as details of their reading level. With regard to the children's use of contextual cues she reports that the Neale Analysis of Reading Ability showed that the children were clearly making use of contextual cues, provided that the passages were within their level of understanding.

As to the conflicting findings concerning the use of contextual information by good and poor readers, evidence can be marshalled for alternative viewpoints. For example the research reported by Au (1977), D'Angelo (1981) and Murray and Maliphant (1982) tends to confirm the view that proficient readers do make more use of contextual information than less able readers. On the other hand there is the evidence from studies by researchers such as Biemiller (1979) and Juel (1980) which lends support to the view that poor readers rely heavily on linguistic cues.

The third broad finding mentioned above - that researchers are becoming more aware that a complex combination of factors are involved in a reader's ability to make use of contextual information - can be addressed in more detail in the following section of this chapter when information from oral reading error analysis at the TEXTUAL level is considered. However, Leu's point that there has been a general failure by researchers to take account of 'combined-source miscues' (Leu, 1982), discussed in the previous chapter, is worth reiterating here. Margaret Clark's comments concerning the use of contextual information and the way reading is taught are also relevant in this respect. The passage from her study of young fluent readers, Clark (1976), must be quoted in full to do

justice to her point:

"The existence of children such as those in the present research must lead us to question to what extent and in what ways learning to read is a developmental process and whether there are essential steps. It may be necessary to consider whether those steps which are frequently regarded as sequential are so only because of the structure within which we teach reading rather than the pattern within which children learn to read. Given the possibility of using a variety of syntactical, semantic and phonic cues in arriving at meaning from print, the same individual will use these differently at different stages in his development of reading skill but also according to the position of words in a sentence or the presence of words in a particular context. The earlier a word appears in a sentence or the greater its isolation from a familiar grammatical context the more necessary will be the alternative cues." (p.105)

Clark goes on to point out that it is only when children read orally that we can study their possible strategies for arriving at meaning so that when children read silently (as did many of her young fluent readers) it is much more difficult to discover the strategies they use. This is obviously a problem in terms of what oral reading error research can tell us about children's strategies, as is the assumption that oral and silent reading are the same. However, this problem was debated in the previous chapter so the discussion need not be repeated here. Rather this section can now proceed to examine in some detail the findings of Potter (1980, 1982, 1983), Thompson (1981), Hudson and Haworth (1983) and Brown (1985).



In a study which aimed to determine the validity of syntactic and semantic acceptability scales used by Burke (1976) (based on Goodman's Taxonomy) Potter (1980) produced an interesting "cautionary note" to miscue analysis (see study-profile sheet 8). Burke found that the errors of better readers were syntactically and semantically acceptable to a greater degree than those of poorer readers and assumed that this finding showed that more able readers could make better use of the linguistic context. However, Potter argued that an error can be more syntactically acceptable simply because the reader makes better use of the graphic information and that Burke's finding that better readers tend to make errors which are more syntactically acceptable could thus simply be reflecting their better use of graphic information.

Potter devised a simple but imaginative procedure to demonstrate a finding which leads to an interesting (if at first sight logic-defying) conclusion: some words, even when presented in isolation, can produce errors which are contextually acceptable. Eight year old children read target words presented within the context of a reading passage and also in a list of words (the necessary steps were taken to avoid order effects). The results showed that some words prompted SUBSTITUTION errors which were just as likely to be contextually acceptable when they were presented in the 'no-context' condition - acceptable that is in terms of the context from which they had been drawn. In other words a contextually acceptable error need not depend on the reader's use of contextual information at all - its acceptability may be a function of the reader's use of the graphic information alone. Potter suggested that this somewhat surprising finding is a consequence of the correlation that exists between the endings of words and their

AUTHOR

POTTER, F. (1980)  
'Miscue analysis: a cautionary note'

PURPOSE OF STUDY

To determine whether the syntactic and semantic acceptability scales used by Burke (1976) were valid measures of the reader's use of context by measuring the contextual acceptability of errors to words presented in and out of context.

AGE OF READERS

8 year olds.

SAMPLE SIZE

28  
(2 test sessions)

BACKGROUND INFORMATION

Reading Ages as measured by GAP test  
Good readers - mean 10.1  
Poor readers - mean 8.1

MATERIALS

Passages from the Neale Analysis of Reading Ability as used by Burke (1976) presented as 'passage' and as 'list'.

MISCUE CATEGORIES

SUBSTITUTIONS

FINDINGS

The validity of Burke's assumption that readers make use of syntactic context simply because they make syntactically acceptable errors was questioned. Errors of both the good and poor readers differed in their syntactic acceptability both in the 'context' and 'no-context' conditions. It was suggested that Burke's measures partly reflected children's ability to use graphic information. The semantic acceptability measures were not invalidated by the results but neither could they be validated because of the subjects' little use of contextual information.

grammatical class membership (adverbs tend to end in -ly).

An example from Potter's work will clarify this point. Potter used the same text, from the Neale Analysis, as that used by Burke (1976). In the sentence:

The dragon charged furiously.

the 8 year old readers were just as likely to produce the semantically and syntactically acceptable miscue "fiercely" for "furiously" when the target word was presented in isolation. The results also indicated that the better readers in the sample were slightly more likely to produce such contextually acceptable errors in the 'no-context' condition than the poor readers. The use of a "difference-score" - the difference between the contextual acceptability of the words presented in and out of context - suggested that these better readers made less use of semantic and syntactic cues. This was presumably because of their superior graphic skills. On the other hand a Goodman-type analysis indicated that they made more use of context than the poorer readers.

There is something of a problem with Potter's conclusion however, in as much as the finding that the better readers made less use of contextual information than the poor readers - based on the "difference-score" referred to above - is reported as statistically significant ( $p < .10$ ) whereas if the more conventional 5% level of significance had been adhered to a non-significant difference would have been reported. There is also the problem that all the readers - good and poor - were presented with the same task. Presumably the task would have been more difficult for the poorer readers - a point

which Potter raises only indirectly (p.124). Finally there is something of a question mark over the counter-balanced repeated measures design since this meant that readers saw the same target words twice and it could be argued that having read the target word correctly in the "in-context" condition could have increased the tendency of the readers to produce a contextually acceptable error in the "list" condition 1 week later. However, Potter does address this problem (p.126). All in all his study can be seen to have made a valuable contribution to the debate over good and poor readers' use of contextual information, sounding as it does "a note of caution" regarding the assumptions made by previous researchers that poor readers make less use of contextual cues than good readers.

Potter's subsequent research (1981, 1982, 1983) focussed more closely on the problems attendant upon the assumption that an analysis of semantically and syntactically acceptable SUBSTITUTION errors suggests that the reader is concentrating on the processing of contextual information (1981); on the use of the preceding and succeeding context by good and poor readers (1982); and on an attempt to investigate whether teaching techniques can be devised to encourage children to make better use of contextual cues.

In his (1981) discussion paper 'Miscue analysis: some problems of interpretation and some possible solutions', Potter provides examples of the SUBSTITUTION errors of 5 young readers in support of his point that semantically/syntactically acceptable errors do not necessarily indicate that contextual information was used to the exclusion of graphic information. For example, in the sentence:

There were deep armchairs and comfortable <sup>seats</sup> ~~settees~~.

the substituted word "seats" is such that the reader could be using both the graphic and the semantic cues or indeed just one of these sources of information. It is impossible to tell which of these strategies is being favoured. Whilst this seems a somewhat obvious point it is one not debated by the majority of oral reading error researchers. However, this problem was discussed by the present author in the previous chapter under the heading 'Single and combined-source miscues' and need not be re-addressed here except to say that Potter's paper is interesting in that it suggests ways of refining the analysis of context-using strategies by collecting additional information about a particular error. For example, comparing the number of errors made to particular words presented both in and out of context - that is a word read correctly in context but incorrectly out of context - would indicate how much the reader was relying on the use of linguistic rather than graphic cues. A second suggestion is that if a pause occurs before a SUBSTITUTION error this might indicate the use of both types of information i.e. the reader attends to the graphic information in an attempt to produce a semantically acceptable reading but sometimes fails to decode the word accurately although his SUBSTITUTION has some graphic similarity.

All in all Potter's contribution to the debate about the problems of oral reading error analysis as a method of estimating readers' use of contextual information has been very useful and his suggestions were borne in mind by the present author when devising the SUBSTITUTION error analysis schedule and the 'out-of-context' tasks which were particular features of the study to be described in

subsequent chapters.

In focussing on the use of the preceding and succeeding context by 7/8 year old good and poor readers Potter (1982) abandoned oral reading error analysis in favour of the use of specially designed cloze-tests. Nevertheless, the study will be reviewed briefly here since, apart from the intrinsic interest of the findings, the methodology provides a good example of some of the problems involved in the use of a silent reading cloze-test procedure as opposed to oral reading error analysis in a study designed to investigate children's reading strategies. Whilst it is difficult enough to observe and accurately interpret reading strategies when oral reading error analysis is employed, this task, arguably, becomes well nigh impossible through silent reading cloze-test procedures.

Potter used specially constructed cloze-tests in two alternative forms: "P-type" items where the "crucial context" preceded the deleted target word, and "S-type" items where the crucial contextual information followed the omission. The aim of the study was to discover whether readers would be more successful in the P-type or the S-type conditions, i.e. whether they made more successful use of the preceding or the succeeding context. Additional aims were to compare the performances of good and poor readers and to investigate whether or not the results were related to self-correcting strategies. Self-corrections were observed by giving the children the opportunity to change their (written) inserted words if they wished but by asking them not to erase or obliterate their first attempts. The results indicated that the children were better at using the preceding rather than the succeeding context and the better the reader the better the use of context. The results were not found

**AUTHOR**

POTTER, F. (1982)  
'The use of the linguistic context:  
do good and poor readers use  
different strategies?'

**PURPOSE OF STUDY**

To investigate whether good and poor readers use different strategies when making use of the linguistic context. Do good readers make better use of the succeeding context by using a better strategy or because of their superior knowledge?

**AGE OF READERS**

7, 8 year olds

**SAMPLE SIZE**

121  
(2 test sessions per child)

**BACKGROUND INFORMATION**

NFER A2 English Progress test

**MATERIALS**

Specially designed cloze tests:  
1) P-type - context preceding deletion  
2) S-type - context succeeding  
deletion

**MISCUE CATEGORIES**

SUBSTITUTIONS; SELF-CORRECTIONS

**FINDINGS**

Children were better at using preceding context than succeeding context: the better the reader the better his use of context. The results were not found to be related to self-correcting strategies and self-corrections were not related to reading ability. No firm conclusions could be drawn as to whether the good readers used a more efficient strategy than the poor readers in making use of the context, or whether they used the same strategy more skilfully.

to be related to self-correcting strategies and neither were self-corrections related to reading ability. Potter reported that no firm conclusions could be drawn as to whether the good readers used a more efficient strategy than poor readers in making use of the contextual information or whether they used the same strategy more efficiently.

However, two main problems apparent in Potter's method might have been considerably lessened by the use of an oral rather than a silent reading of the sentences. First of all, as Potter himself comments, (page 82) the procedure meant that only the overt self-corrections of the children could be observed. It seems unlikely that, in a written cloze-test task, children would be willing to record an answer until they felt fairly satisfied that it was correct. Thus there may have been many 'silent' self-corrections before the final answer was written down and this might account for the very few self-corrections actually observed by Potter. Although an oral reading of the sentences would not have eliminated this problem completely it would probably have helped. Secondly, in a silent reading task designed to examine the differences in strategies between good and poor readers, there is the problem of not knowing the different error-rates of the children as the cloze-test sentences were read. It seems unlikely that all the children, both good and poor readers, would have been able to accomplish an error-free reading of the test materials. An oral reading of the sentences would have enabled errors to have been recorded and this would have helped to give more information about how some children were unsuccessful in using context i.e. SUBSTITUTION errors or OMISSION errors which occurred prior to their attempts to supply the correct target word for the sentences may have been responsible for an



AUTHOR

POTTER, F. (1983)  
'Teaching children to use the  
linguistic context more effectively'

PURPOSE OF STUDY

An exploratory (case) study designed  
to evaluate a teaching technique  
intended to encourage children to  
make better use of the contextual  
information to help decode unfamiliar  
words.

AGE OF READERS

8, 9 year olds

SAMPLE SIZE

4  
(1 followed up over 14 sessions)

BACKGROUND INFORMATION

Teacher evaluation of children making  
poor use of context. Phonic skills,  
(Swansea)  
Neale Analysis scores  
Detailed description of children's  
reading strategies.  
Faulty Learning Styles test (Stott)

MATERIALS

Cloze task constructed from child's  
reading book.  
Succeeding Context Test, (Potter 1982)  
List of words from reading book

MISCUE CATEGORIES

SUBSTITUTIONS

FINDINGS

The short-term intervention techniques were effective in terms of  
pre-test/post-test scores on three dimensions:

- 1) ability to generate hypotheses, (substitutions) on cloze  
test.
- 2) word attack skill.
- 3) Neale test score

Some reservations as regards the results were put forward by the  
author since the pre-test/post-test was, with hindsight,  
felt to be unsatisfactory - alternative explanations of the  
findings were suggested.

incorrect solution to the cloze-test. Obviously in a silent reading task such errors, if they occurred, could not be recorded. The assumption was that all the children were able to read the test materials with the same degree of accuracy. Oral reading error analysis is a painstaking and time-consuming affair and even so can only provide a partial picture of children's reading strategies. Nevertheless, one can conclude that much more information about the reading strategies of Potter's subjects would have been available had he not decided, on this occasion, to make use of a silent reading task. However, Potter's work is continuing and building on his previous research his attempts to devise a technique to teach children to use contextual information more effectively have shown that children can be encouraged to do so (see study- profile sheet 10).

Smith (1978) has suggested that reading rate can effect a reader's ability to make use of contextual information since the limitations of short-term memory, in the 'slow' reader, might be viewed as a critical constraint on his ability to process and retain semantic information from the text. This limitation is claimed to apply both to the beginning reader and to the more experienced reader reading difficult material (Smith 1971). Thompson (1981) attempted to test this prediction in a study of beginning readers. A second purpose of the study was to test the attentional limitation theory of La Berge and Samuels (1974). This suggests that children who are not skilled in the use of graphic processing give most of their available attention to graphic cues and thus have little attention available for the use of the semantic context.

AUTHOR

THOMPSON, G.B. (1981)  
 'Semantic context and graphic  
 processing in the acquisition  
 of reading'

PURPOSE OF STUDY

To test the predictions that:  
 a) children reading at a slow rate  
 make little or no use of contextual  
 information. (Smith 1978)  
 b) children not well-practiced in the  
 use of graphic information will be  
 able to make little use of  
 contextual information.  
 (La Berge & Samuels 1974)

AGE OF READERS

6, 7 year olds (a)  
 8, 11 year olds (b)

SAMPLE SIZE

24, 48  
 (2 experiments)

BACKGROUND INFORMATION

Occupational class families  
 I.Q. data  
 Reading test data  
 Information on teaching methods

MATERIALS

Exp. 1 text from class readers adapted  
 to provide 'low semantic' and  
 'normal semantic' context.  
Exp.2 the same text presented in  
 three different graphic styles.

MISCUE CATEGORIES

SUBSTITUTIONS; INSERTIONS; OMISSIONS  
 (all pooled as 'ERRORS')

FINDINGS

Neither of the predictions were supported by the findings.

Exp.1 Children made considerable use of the semantic context  
 for word identification relative to conditions in which  
 reading was faster.

Exp.2 . Children were able to use the contextual information under  
 conditions of graphic processing in which they had no  
 previous practice.

Thompson tested these predictions by manipulating passages of text from the children's reading books to produce different levels of semantic contextual constraint and different levels of graphic presentation. Children's error and reading time rates were then compared on these and on normal passages. A passage of "low semantic constraint" was constructed by taking a normal reading book passage and interchanging some of the words so that meaning was disrupted. For example the sentence:

"Sit down Jack the boat will tip", said Father  
became

"Sit down water Father will tip", said the rod.

The constructed versions of "low semantic constraint" contained the same words as the normal passage from which it was derived. Graphic presentation, and thus "graphic familiarity" was also manipulated in each passage by its being reproduced in three conditions: lower-case, upper-case, and "mixed" (upper/lower) case print.

Thompson reported that the findings of this experiment, and of a second experiment involving older children, did not lend support to either of the predictions under investigation. In other words, children made more errors on the low semantic constraint passages than on the normal passages despite the differences in graphic presentation. This suggested that contextual information was being used despite the expectation (from La Berge and Samuels's prediction) that when the graphic presentation demanded more attention little use would be made of the contextual cues. Also, whilst reading rate was slower on the normal passages with less graphic familiarity, children still produced fewer errors than on the corresponding 'silly'

passages. Thompson discussed these findings in relation to the theory that readers use all the contextual information available but only as much of the graphic information as needs to be added to confirm word identification. There is a problem with this conclusion, however, in as much as his research made no actual analysis of error-types - SUBSTITUTIONS, OMISSIONS and INSERTIONS were pooled to give a simple error count. Therefore it is not possible to tell from the data how, or how much of the contextual information was used by readers under the different textual conditions. Secondly, Thompson's methodology assumed that by manipulating the visual appearance of the material to be read (by using upper and lower-case type) the reader's graphophonic skills would be reduced. This is not necessarily the case since a skilled reader surely cannot be assumed to behave like an unskilled reader - unskilled graphophonically that is - simply because a word is presented in upper case rather than lower case. There is, anyway, a good deal of existing evidence to suggest that the predictions of both Smith (1978) and of La Berge and Samuels (1974) are not borne out in reality since studies such as those of Biemiller (1970), Weber (1970) and Cohen (1974-5) have all shown that beginning readers do make use of contextual information. This being the case, Thompson's finding that the predictions could not be supported was not particularly surprising even though it could be argued that his methodological procedures did not reliably test either of them.

Noting the repeated emphasis in the research literature that the readers' use of multiple cues has direct implications for the teaching and the testing of reading in the classroom, Hudson and Haworth (1983) devised a simple, but potentially interesting task to investigate "dimensions of word recognition". Words from the

AUTHOR

HUDSON, J.A. & HOWARTH, J. (1983)  
'Dimensions of word recognition'

PURPOSE OF STUDY

To discover if children's ability to recognise words on the Schonell Graded Word Recognition Test would be significantly improved when the words were placed in a meaningful context 'where available semantic and syntactic information was maximised'.

AGE OF READERS

8 year olds

SAMPLE SIZE

87  
(1 test session per child)

BACKGROUND INFORMATION

Children from 9 different schools said to provide "an acceptable cross-section in terms of type of school, ability and socio-economic background".

MATERIALS

Words from the Schonell GWRT  
presnted in lists and in sentences.

MISCUE CATEGORIES

SUBSTITUTIONS

FINDINGS

The children's ability to recognise words was significantly improved when they were placed in a meaningful context rather than presented in the 'list'condition.

Schonell GWR test were presented in list form (as in the test) and within the context of meaningful sentences in order to discover whether or not reading accuracy improved under the latter condition. Two parallel forms of the "within context" tasks were devised and the accuracy scores of children on these and on the "list" task compared. The results showed children recognised significantly more Schonell words when they were placed in a meaningful context than when they were presented in isolation. An item analysis showed that the difference in recognition scores grew larger with the increasing difficulty of the words.

However, there appear to be several methodological problems associated with this interesting study, the most important of which concerns the counterbalancing of the test materials. If, as seems to be the case, the children involved saw the "list" words first followed by the presentation of the same words in the "sentence" condition this would obviously be likely to increase recognition scores in favour of the researchers' hypothesis. However, it is not made clear whether in fact a repeated measures design was used so this remains an open question. On the other hand, if the research involved an independent subjects design, a problem still exists in as much as no account was taken of the children's reading ages. Thus there is a difficulty in assessing the validity of the results although taken at face value they do, as the researchers comment, have implications for the heavy reliance still placed on 'isolated word' tests such as Schonell in assessing children's reading competence.

The final study to be reviewed in the present section of this chapter illustrates a rare attempt by a researcher to relate

children's use of contextual information to their opinions about the purposes of reading. Browne (1985) presented children with a specially constructed story containing 10 contextually appropriate target words which were used in their "least usual" sense (although regrettably her paper provides no examples of this usage). Oral reading errors were recorded with reference to the 10 target words in an attempt to determine "the amount of attention children manifested when trying to reconcile semantic problems that might be occurring". The children were also asked to retell the story and to define the 10 target words as they had been used in the story. In summary, the results showed that whilst only 32 uncorrected errors had occurred in response to the 10 target words (out of a possible 320), only 144 correct definitions of the meaning of the words could be provided by the children. In fact only 10 of the 32 children were able to define 5 or more of the target words as they had been used in the text and of the 11 children who mentioned difficulties in reading the text, only 1 child expressed a difficulty concerned with one of the target words. Browne interpreted these findings as suggesting that the children were concerned with correct decoding rather than with "assimilating new information".

"The children did not seem to expect to discover something new in their reading, instead their attention seemed to be focussed on performance of the task. They were largely unaware that they had not produced correct definitions". (p.49)

Whilst this conclusion seems both logical and interesting there are problems associated with its validity in terms of the actual findings of the study. On the one hand there is no clear evidence to



AUTHOR

BROWNE, A. (1985)  
'Young children's attention to  
textual context when reading'

PURPOSE OF STUDY

An attempt to measure children's  
attention to reading by observing  
their ability to reflect on the text  
during and after the reading task.  
To discover whether any relationship  
existed between children's opinions  
about the purpose of reading and the  
degree of attention manifested.

AGE OF READERS

6, 7, 8 year olds

SAMPLE SIZE

32  
(1 test session per child)

BACKGROUND INFORMATION

'average readers'

MATERIALS

One specially constructed story  
containing 10 'polysemous' target  
words used in their least usual  
sense.  
Interview schedule to assess attitudes  
to reading.

MISCUE CATEGORIES

SUBSTITUTIONS: NON-RESPONSE;  
SELF-CORRECTIONS.

FINDINGS

Results indicated that children generally viewed reading as being  
solely concerned with an ability to read without error. Only 34%  
of the children expressed experiencing difficulty with the text but  
only 31% were able to define 5 or more of the target words as they  
were used in the story. Only 1 child mentioned a difficulty related  
to meaning. Attention was largely focussed on the performance of  
the task. Favourable attitudes towards reading were expressed but  
its purpose was seen in terms of its necessity as a part of  
school life.

suggest that the readers had not "discovered something new in their reading". Browne had asked each child to retell the story - "to check overall understanding". She does not provide any information to suggest the outcome of these retellings showed that the children lacked "overall understanding" so it would appear that they had, in the sense that they could retell the story, "discovered something new". On the other hand, no information is provided as to the nature of the target words other than that they were "polysemous" and "used in their least usual sense". Examples would have helped since, as it is, the reader is not able to judge how crucial, in terms of "discovering something new" the ability to define these words might have been. At any rate the fact that the children were able to retell the story does not support the view that they were concerned with "correct decoding rather than assimilating new information", neither does the observation that "no child overtly questioned the meaning of the passage while reading". The SUBSTITUTION errors were not analysed in an attempt to discover whether or not they suggested attention to the graphic rather than the semantic information, and, given that they could retell the story, it seems unlikely that the readers needed to "overtly question the meaning of the passage".

Browne further reports that the majority of children indicated "favourable attitudes to reading at school and at home" but goes on to suggest that her data on reading attitudes lends general support to the conclusion derived from the passage-reading data, i.e. that reading "seemed to have made little impression on the children". This conclusion appears to be largely based on the finding that the children "rarely mentioned books other than those that had been read to them at school or at home". It is rather difficult to know why this response was interpreted in a negative light and exactly how it

relates to the results of the definitions task.

All in all Browne's study, which represents the one attempt by a researcher to combine an oral reading error analysis with other kinds of complementary information, is disappointing on methodological grounds and in terms of the author's interpretation of her findings. Nevertheless, the questions it raises are interesting and will perhaps stimulate further investigation concerning how much emphasis children place on deriving meaning from a text and how this matches their actual reading performances.

As can be seen from the selected literature review presented above, attempts to use oral reading error analysis to provide information at the CONTEXTUAL level have taxed researchers' ingenuity and resulted in some imaginative, if not always totally successful, test materials - "silly passages" produced in a mixture of upper and lower-case print (Thompson 1981); target words concealed by BLU-TACK (Potter 1983); and "polysemous" target words of obscure meaning (Browne 1983) have each played their part in the investigations. Perhaps the novelty of some of the materials used should be taken as a measure of the methodological difficulties encountered in the attempt to make progress in answering what turns out to be a very difficult question: how, and how much attention, do readers of different ages and stages pay to the contextual information provided by the text?

The main findings from this area of research were summarised at the beginning of the present section so attention can now be given to the question of the aims of the present author's study in attempting to provide information about the use of contextual cues by the 52

Secondary school 'remedial' readers who participated.

The study to be reported in subsequent chapters was designed to investigate the children's use of contextual (and graphic) information by the use of two methods. First by an analysis of SUBSTITUTION errors at four levels of semantic/syntactic acceptability on three different kinds of texts; secondly by the use of a specially designed task which compared the readers' recognition of words in and out of context. The reading materials and procedures involved will be fully described in Chapter 4. At this point the aims of the study in respect of providing information at the CONTEXTUAL level can be summarised as follows:

AIM: To investigate the use of contextual information by 11 year old remedial readers through:

- (1) an analysis of their SUBSTITUTION errors on three types of text.
- 2) a comparison of their recognition of words presented in context and in isolation.

#### 2.4 The TEXTUAL level of investigation

Oral reading error analysis can be used to investigate the possible interaction between TEXTUAL features, such as text difficulty and text layout, and reading performance. For example do readers use the same strategies when presented with texts of increasing difficulty or is there a strategy change? If this type of flexibility does exist is it shared by older and younger children and

by better and poorer readers? Does text layout affect the number and nature of oral reading errors? i.e. are some styles of text presentation likely to provoke more errors than others? Such information would obviously be useful in a number of ways.

Taking first the question of a possible interaction between text difficulty and reading strategies, diagnostic and instructional implications are involved. For example, if a child shows, when reading an 'easy' passage, that he is able to make use of contextual cues he does not need instruction in order to become a 'reader for meaning'. If, however, the child's abilities are assessed only by observing his errors on a passage which is too difficult his ability to use contextual information may break down thus suggesting he typically reads in a word-by-word fashion.

Secondly, information about text layout and text presentation, gathered through an analysis of oral reading errors is useful since it allows an investigation of the interaction between the reader and the text. Readability formulae on the other hand attend to the text in isolation from the reader. An increased awareness of the factors which may provoke reading errors would obviously be useful to the publishers of primary school reading resources - and also to teachers who often prepare reading materials for their pupils.

#### Current information at the TEXTUAL level

The problem of oral reading error researchers paying little attention to the text difficulty variable was discussed in general terms in the previous chapter under the heading 'Reading ability, passage choice and miscues'. However, some researchers have focussed

more specifically on whether or not an interaction exists between patterns of error, reading ability and passage difficulty. Page (1970) cited by Wixson (1979) noted that patterns of error in readers of different ability are

"...distinct enough from one another to suggest that the reading process is different for each subject with each variation in material"

The phrase "variation in material" however, raises the question of what is meant by 'text difficulty' since whilst two passages may be comparable in terms of 'readability' there is also the question of a particular reader's background information of the content, and his ability to comprehend what is being read. For example, Thomas (1975) found that the tendency for an individual's SUBSTITUTION errors to be semantically and/or syntactically acceptable depends on the degree to which he is able to comprehend the passage, and Rousch (1972) showed that 'average' 10 year old readers with little conceptual knowledge of the content of a text produced more graphic errors and made fewer self-corrections than readers with more appropriate prior knowledge.

Other factors which have been found to influence the qualitative nature of patterns of errors are passage length (Menosky 1971) and the information available as to the purpose for which a passage is being read (Thornton 1973). Another variable associated with text difficulty for a particular reader is the nature of the material - Thornton suggested that differences in error patterns produced by 11 year old pupils reading fiction and non-fiction were a function of differences in dealing with the author's writing style. Thus it seems that different types of material present different difficulties

to different readers and the phrase 'text difficulty' can be used in connection with several levels of variation between materials.

Taking all these variables into account it is difficult to summarise any general findings concerning text difficulty, reading ability and variations in the quality and quantity of oral reading errors.

Nevertheless some broad agreement between researchers can be noted.

- \* There is a general consensus that patterns of error are not static but that they vary according to a complex interaction of factors associated with readers and with the texts they read.
- \* There is some evidence to suggest that as text difficulty (in terms of 'decodability') increases, the proportion of graphic errors to contextual errors becomes greater for able readers but that this pattern is reversed for less able readers.
- \* There is evidence to suggest that certain features of textual presentation and writing style can act as "miscue triggers" but the relationship between these features and between reading ability is as yet unclear.

The remainder of the present section of this chapter is mainly concerned with a more detailed examination of the work of researchers who have attempted to examine the possible interaction between reading ability, passage difficulty and patterns of oral reading error by controlling the reading material presented to their subjects in terms of its readability. However, the work of Clifford Moon

(1973a, 1980) on "miscue triggers" in text will also receive some attention. Study profile sheets giving details of the various author's research will be included at appropriate points throughout the text.

A literature search revealed only one example of a British study which has specifically considered the effects of age, reading ability and text difficulty upon children's oral reading errors (Mingay 1977) and this was undertaken some ten years ago. Mingay studied the oral reading errors of children of 9 and 11 years using 3 passages of ascending difficulty. Using Goodman's taxonomy he found that patterns of error differed not only according to text difficulty, but also according to the reading ability of the children within each age group. For example, whilst an increase in text difficulty provoked more graphically constrained errors from the "above average" readers in the two age groups, the reverse was true for "below average" readers. In fact, little difference in the use of semantic, syntactic and graphic information was found when "below average" readers were presented with the two more difficult texts. Mingay explained this by suggesting that for a low ability reader "it might be expected that the question of increasing difficulty would have little meaning" (p59). Put another way, what his findings seem to suggest is that more able readers exhibit a flexibility of reading strategies according to the demands made upon them by the text, whereas the flexibility of poorer readers is more limited. Beyond a certain stage of text difficulty their decoding skills are stretched to the point where the contextual cues become the most accessible sources of information.



AUTHOR

MINGAY, P. (1977)  
'An analysis of the effects of age,  
reading ability and text difficulty,  
upon children's oral reading errors.'

PURPOSE OF STUDY

To test certain predictions about  
oral reading implied by Goodman's  
psycholinguistic model of reading.  
To investigate the use of contextual  
information.

AGE OF READERS

9, 11 year olds

SAMPLE SIZE

60

BACKGROUND INFORMATION

'average', 'above average' and 'below  
average' readers.  
Southgate Group Reading test data  
GAP reading test data.

MATERIALS

3 passages of ascending reading  
difficulty from the children's  
classroom readers.

MISCUE CATEGORIES

SUBSTITUTIONS

FINDINGS

Goodman's model was supported. Increasing reading ability was  
associated with an increase in the use of syntactic and semantic  
information. The most able readers relied less on graphic  
information and more on contextual cues, but this trend was  
reversed as the difficulty of the texts increased.

Mingay noted the problems attendant on the use of Goodman's taxonomy in as much as it leads to many subjective judgements regarding the nature of the information which has been used in producing an error. However, his results largely supported the psycholinguistic model of reading put forward by Goodman and Smith and his study made a useful contribution to the investigation of the possibility of an interaction between reading ability, passage difficulty and reading errors at a time when very little information was available on this issue.

In an American study which had a similar aim to that of Mingay, Biemiller (1979) investigated 6 year old readers' changes in the use of graphic and contextual information as functions of passage difficulty and reading achievement level. Although the children were much younger than those who took part in Mingay's study and the methods of analysing the errors were different, there is some similarity in the findings of the two studies i.e. Biemiller, like Mingay, found an increase in graphically constrained SUBSTITUTION errors as passage difficulty increased with the most able readers making higher proportions of graphic errors than the least able children on their most difficult passages. However, there is something of a problem with Biemiller's study in that it appears that errors were categorised in terms of the use of (discrete) graphic or contextual strategies. "Graphic errors" had to show at least initial letter similarity with the target word but presumably many of these would be semantically and/or syntactically appropriate as well. There is no information as to the proportion of errors which might have originated from combined sources of information so it seems possible that in using discrete categories the over-estimation of graphic errors was possible. For example, a substitution of the word

AUTHOR

BIEMILLER, A. (1979)  
'Changes in the use of graphic and contextual information as functions of passage difficulty and reading achievement level'

PURPOSE OF STUDY

To compare the strategies of use of information by readers of differing ability reading passages of increasing difficulty.

AGE OF READERS

6 year olds

SAMPLE SIZE

59  
(1 test session per child)

BACKGROUND INFORMATION

Children were placed into 4 achievement groups based on the most difficult passage they could read with less than 25% error rate.

MATERIALS

4 passages of increasing difficulty based on vocabulary from basal readers.

MISCUE CATEGORIES

NON-RESPONSE: SUBSTITUTIONS;  
INSERTIONS; OMISSIONS;  
SELF-CORRECTIONS.

FINDINGS

Children made proportionately more NON-RESPONSE and GRAPHIC SUBSTITUTION errors with increasing passage difficulty. The most able readers made higher proportions of graphic errors on their most difficult passages compared to other children. The results do not support the view that able readers make less use of graphic information than less able readers.

'brightly' for 'brilliantly' in the sentence 'The lamp shone brilliantly' would, in Biemiller's terms, constitute a graphic error but it is also semantically and syntactically acceptable. The problem of accounting for such combined-source errors has already been discussed in Chapter 1 and in the present chapter in respect of Potter's work. However, it is worth reiterating this problem in the present context since the claim that the graphic SUBSTITUTION errors of readers, particularly more able readers, increase with increasing passage difficulty cannot be verified unless the proportion of these errors which also had some semantic-syntactic acceptability, is reported. (It is worth noting here that this particular problem does not apply in Mingay's study since the Goodman taxonomy requires each error to be scored for graphic, semantic and syntactic acceptability).

A study published in the same year as that of Biemiller (1979) and displaying similar aims concerning oral reading strategies and passage difficulty provided information about older less able readers. Kibby (1979) studied readers between the ages of 10 and 13 years and concluded that the majority of his sample were able to make good use of contextual information on "less difficult" but not "difficult" passages - a finding which again shows broad agreement with that of Mingay (1977). Kibby's overall conclusion and advice of teachers to less able pupils is stated in a by-line on the title page of his report and reads:

"For a true picture of a child's syntactic and contextual strategies, use less difficult material". (p390)

AUTHOR

KIBBY, M.W. (1979)  
'Passage readability affects the oral,  
reading strategies of disabled  
readers'

PURPOSE OF STUDY

To compare the oral reading errors of  
readers on 'difficult' and 'less  
difficult' passages.

AGE OF READERS

10, 11, 12, 13 year olds

SAMPLE SIZE

46

BACKGROUND INFORMATION

I.Q. data

MATERIALS

Passages from the Diagnostic  
Reading Scales (Spache 1972)

MISCUE CATEGORIES

As defined by the Reading Miscue  
Inventory (Goodman and Burke, 1972).

FINDINGS

The difficulty of the reading passage had an effect on the reading strategies observed. The majority of readers made good use of the contextual information on the 'less difficult' but not on the 'difficult' passages.

Kibby's premise is that if a reader is not to direct all or most of his attention to the graphic cues provided by the text his identification of a certain number of words must be achieved readily. His findings show that whilst 76% of the 46 readers were classified as weak in the use of contextual information on his "difficult passages", 74% demonstrated strength in this ability on the less difficult passage. An example of the errors of a 12 year old below average reader, KIMBERLY, illustrates Kibby's point that readers can easily be wrongly assumed to be unable to read for meaning if an oral reading error analyses is performed on material which is too difficult at the decoding level. KIMBERLY made 17 errors on a "difficult passage" (4A from the Spache Diagnostic Reading Scales). Of these errors only 4 were syntactically and semantically acceptable within the passage. By contrast, on an easier passage (3C) all but one of her SUBSTITUTION and INSERTION errors were contextually acceptable and did not significantly alter the meaning of the story. As Kibby points out, an instructional recommendation from an oral reading error analysis of the difficult passage would be to teach strategies for recognising contextual cues and ways to use them, whereas an analysis of the errors made on the easier passage demonstrated that KIMBERLY was able to read for meaning. It therefore seemed that this ability was 'swamped' by the decoding difficulties she encountered in the more advanced passage. From a diagnostic point of view it would thus seem likely that whilst a reader's performance on a difficult passage may be useful for evaluating decoding and sight vocabulary skills, it may be a misleading indicator of the ability to use contextual cues. It is worth noting here that Kibby's findings and conclusions are not inconsistent with the findings of Mingay (1977) and Biemiller (1979) that as passage difficulty increases so the readers' ability to use

graphic cues becomes more significant. Secondly, it must be mentioned that Kibby's study represents the single example of oral reading error research involving older less able readers which could be traced by the present author. As such his findings and suggestions are of particular relevance to a consideration of the findings of the present author's study of 11 year old remedial readers to be reported in subsequent chapters. They will be discussed further at a later point (Chapter 15).

One further study in which stimulus materials were tightly controlled can be mentioned here. The research by Juel (1980) differs from that of Mingay (1977), Biemiller (1979) and Kibby (1979) in that 7/8 year olds' use of textual cues was investigated through the presentation of single sentences rather than passages of prose. Juel was interested to discover the extent to which children of differing reading ability used e.g. "context driven" or a "text driven" strategy when reading. Target words which differed in decodability, frequency and the number of syllables, were presented under three conditions: "in isolation", within "poor context", and within "moderate context." The findings were generally compatible with those of the previously mentioned authors in that good readers appeared to be predominantly "text driven" (graphic orientated) whilst poor readers were more "context driven" (focussed more on contextual cues). Average readers fluctuated between the two strategies. It is also of interest to note that the effect of poor/moderate context was over-ridden by the frequency and the graphophonic difficulty of the target words - most errors were caused by low-frequency difficult words irrespective of the context in which they were presented.

AUTHOR

JUEL, C. (1980)  
'Comparison of word identification strategies with varying context, word type, and reader skill'

PURPOSE OF STUDY

To investigate the extent to which 7 and 8 year old children of differing abilities use a 'context driven' or 'text driven' process when reading. The study attempted to probe some of the contradictory findings regarding readers' use of context by tightly controlling the stimulus materials.

AGE OF READERS

7, 8 year olds

SAMPLE SIZE

72  
(2 test sessions)

BACKGROUND INFORMATION

High, average and low ability readers classified by scores on reading test; school ability groups; scores on graded word test.

MATERIALS

Target words which varied in decodability, frequency and number of syllables. Presented in three conditions: 'isolation'; 'poor context' and 'moderate context' sentences only.

MISCUE CATEGORIES

SUBSTITUTIONS

FINDINGS

The data indicated that the good readers were predominantly 'text driven', (made use of graphic cues) whilst poor readers were more 'context driven', (relied more on context). Average readers fluctuated. The decodability and frequency of the target words affected the miscues in each condition. Most errors were caused by the low frequency difficult decodable words regardless of whether the context was poor or moderate.



Juel's study is creditable in its attempt to control stimulus materials stringently and observe their differential effect on the strategies of readers of varying ability. However, one cannot help but feel, as the author herself acknowledges, that the study of reading processes through the presentation of words in isolation and target words in single sentences, can offer only a very limited picture of what happens when children engage in what, for the want of a better description, we might call the 'real reading' of a 'real text' - a text which is made up of organised connected prose so as to convey the author's message through a coherent set of ideas. To borrow a phrase from Blank (1985) such prose is made up of language "chains". In reading isolated sentences, where the links are non-existent, the reader is deprived of any overall theme with the result that the 'message', and therefore the purpose of the text, is obscured. Thus whilst Juel's study can provide a 'snapshot' of the differential effects of the interaction between reading ability, textual cues and word difficulty this needs to be complemented by additional information gained from an analysis of errors made on 'ordinary' prose.

A final area of research to be considered in the present section is that which has been concerned with the issue of possible "miscue triggers" (Moon 1979) in instructional text - features of grammatical style or text presentation which have been shown to provoke oral reading errors from readers of different ages and abilities. Some of these errors may be 'good' errors, in the sense that they do not prevent the reader from comprehending the author's message. In this case - to go along with the view of Smith (1978) - they need not matter very much since a grasp of meaning need not depend on the totally accurate decoding of all the words on the page. In other

cases, however, a SUBSTITUTION error can matter a great deal if it has a crucial effect in disrupting the intended meaning of a sentence. For example, sentences which have a deleted subject in the second clause (e.g. "Jane saw Mary and clapped her hands") have been shown to provoke errors which, although they are semantically and syntactically acceptable on the one level nevertheless result in comprehension problems (e.g. "Jane saw Mary and <sup>clapping</sup> ~~clapped~~ her hands"). Reid (1972) studied such syntactic features commonly found in extension readers and showed this type of failure in comprehension through children's transformation of syntax via SUBSTITUTION errors. Donaldson and Reid (1985), considering the problems, and the necessity, of young readers accommodating the shift from the language of speech to the language of books, suggested that texts must be looked at "with an eye to syntax", which, unfortunately, readability indices do not measure particularly well.

Turning to related oral reading error research by Clifford Moon (1979) and his associates, several "miscue triggering" features of text have been identified and categorised. Building upon work done by himself and by teacher research groups at Bristol University (see study- profile sheet 18), Moon (1979) has identified features of layout, style, syntax and structure which provoke reading errors and consequent comprehension failure. For example, within his "layout" category, incorrect spacing between words, lines and meaning units have been shown to provoke errors. In one oral reading error observation 20 children read "East blue" as one word in the sentence:

"All were painted blue for in this country  
of the East blue was the favourite colour."

AUTHOR

MOON, C. (1979)  
'Categorization of miscues arising from  
textual weakness'

PURPOSE OF STUDY

To identify and describe 'miscue  
triggering features' in classroom  
texts read by primary school children.

AGE OF READERS

5 - 11 year olds

SAMPLE SIZE

-

BACKGROUND INFORMATION

The researchers involved were actually  
the teachers of the children. The  
study involved a small group of  
teachers studying 'Reading Resources'  
at Bristol University.

MATERIALS

Alternative versions of matched texts  
reproduced with and without miscue  
triggering categories.

MISCUE CATEGORIES

REFUSAL; SUBSTITUTION; SELF-CORRECTION;  
PAUSE; REPETITION; OMISSION;  
INSERTION.

FINDINGS

Significant differences in mean miscue scores were observed for 3  
kinds of miscue triggering categories:

- (a) syntactic pattern break
- (b) elisions
- (c) split words.

On examination of the text it was discovered that whereas the space between all the other words in the sentence was between 2mm and 2.5mm, the space between 'East' and 'blue' was only 1mm.

On the level of "syntax" Moon has also described the "syntactic pattern break" as a miscue triggering feature. For example, what Crystal (1976) describes as the "syntactic complexity variable of preceding linguistic context" can lead to errors when a text leads readers to build expectations which are not fulfilled.

e.g. "Watch  
 Watch me  
 Watch me hop  
 Watch me skip  
 Watch <sup>me</sup>this."

Children read "me" instead of "this" on the last line of this passage.

Syntactic features of text were also shown to be important at the level of 'style'. For example, the sentence:

"Jennifer held on to the rope too  
 to help Johnny pull."

caused repetition, pause and general confusion.

Moon's work is proceeding but has already added a great deal of complementary information to the issue of how far reading errors, comprehension and, we might assume, reading progress can be viewed as

a function of the interaction between the reader's expectations and experience of written language and certain features of text.

Finally, before concluding this section, we may note that there is work on typographic layout and its effects on reading. Watts and Nisbet (1974) and Hartley (1985) provide useful summaries of work on type sizes, type styles and line-lengths. Hartley (1987) also describes how readers can make errors in deciding "where to go to next" if the layout of the text does not conform to their expectations.

Thus as the literature referred to above indicates, oral reading error research at the level of TEXTUAL information has been useful as a means of bringing together information about the interaction between the reader and the text. However, what becomes apparent is that the single phrase "text difficulty" cannot easily be defined. Texts can be judged "difficult" at a variety of levels. For example, the "difficulty" may manifest itself in terms of vocabulary, style, syntax and layout and each of these levels may have some effect on a reader's success or failure at the decoding and/or comprehension level. However, several issues remain unresolved and one which seems to have received little attention from oral reading error researchers is the question of the content or subject matter of a text and how this aspect of "text difficulty" or "text accessibility", might interact with a reader's prior experience and background knowledge of what is to be read.

The research undertaken by the present author, although it did not attempt to 'measure' text difficulty in terms of style, syntax or text layout did focus on this issue of background knowledge, text

content, and prior experience of language. For example, the oral reading errors of the children were observed on three types of text. One of these, the "SELF-text" was produced from a transcript of the reader's own oral language used when describing their hobbies, friends, pets etc. Such 'self-generated texts' it was assumed, could provide maximum 'accessibility of language' for individual readers since they contained no words which were not part of their own vocabulary and since the sentence structure and syntax closely approximated their own speech. Their oral reading errors could then be observed whilst the 'knotty' variable of background knowledge and language experience was held constant. Subsequent analyses of errors were also made on two other types of text: PEER- texts (where children read each other's SELF-texts) and CLASS-texts where children read a passage from a typical 'class-reader'. These texts, it was felt, would be less accessible in terms of background knowledge, vocabulary etc. though they were still within the children's decoding capabilities. It was felt that by observing oral reading errors on these three types of text a 'rounded picture' of the children's reading strategies and reading difficulties could be gained. Thus a major aim of the research to be described in subsequent chapters was related to the issue of text difficulty in terms of text 'accessibility' and can be summarised as follows:

AIM: to describe and analyse the oral reading errors of 52 eleven year old remedial readers on texts of differing 'accessibility' in an attempt to gain a comprehensive picture of their reading strengths and reading weaknesses.

## 2.5 The INTERACTIONAL level of investigation

At the INTERACTIONAL level of investigation oral reading error research might be combined with other forms of investigation so that a more complete picture of a reader's strengths and weaknesses in language and communication skills can be provided. For example, what is the relationship between the quantity and the quality of oral reading errors and a reader's comprehension and recall of a text? How might pre-reading skills, or early experience with language, relate to oral reading error profiles when reading instruction is begun? Is there a relationship (or a mismatch) between what readers seem to 'know' about the reading process and the kinds of errors they make? At the present time there is very little oral reading error research which is 'collaborative' in the sense that these questions imply. In fact, apart from investigations at the DEVELOPMENTAL level of enquiry mentioned above (Biemiller 1970; Weber 1970) the majority of oral reading error research findings are the product of one text used in one test session. As such it could be argued that they can provide little more than a 'snapshot' of the reading process. Oral reading error research at the INTERACTIONAL level of investigation is thus a direction which might be taken by future researchers rather than a line of enquiry which already exists. However, there is a limited amount of research which has attempted to combine knowledge about readers' errors with other aspects of their reading and language performance. This will be reviewed below and then the aims of the study by the present author, in terms of the INTERACTIONAL level of investigation, outlined.

### Current information at the INTERACTIONAL level of investigation

As mentioned above there is, at the present time, little oral reading error research which has been collaborative in the sense of combining information about readers' errors with other measures of reading performance. However, some progress has been made concerning the possible relationship between different types of errors and a reader's ability to comprehend and retell a story. For example, the research by Goodman and Burke (1972) focussed on the possible connection between error-patterns and the retelling of a story as a measure of a reader's comprehension. Their findings have shown, by and large, that there is little support for the assumption that the number of reading errors a person makes is inversely related to their reading comprehension. Rather it is the type of error that is more significant in this respect. However, some problems with the exact nature of the connection between reading errors and comprehension have been raised. For example, Goodman and Burke note that there are readers who demonstrate a good understanding of the reading material through retelling scores but whose error-patterns would indicate considerable comprehension loss. On the other hand there are readers who appear to have minimal understanding of the material although this is not indicated by their error profiles. As Wixson (1979) has pointed out, however, Goodman and Burke did not indicate the frequency with which this 'mismatch' occurred and this raises the question of the validity of oral reading error analysis as a method of determining a reader's comprehension of material. However, the possibility that this problem may be, in part, due to the limitations of the retelling variable as a measure of comprehension has been raised by other researchers. For example, Beebe (1980) points out that 'retelling' is based not only on the child's ability to read and



understand a story but also on the ability to transmit orally what has been read to a third party. Apart from this there is the problem that some able children may be reticent during the retelling task and that this might lead to a serious underestimation of their understanding of what has been read.

In an attempt to counteract this problem Beebe (1980) introduced a reading comprehension task, as an outcome variable which was separate from retelling. Her research addressed the question: "To what extent do the different types of oral reading miscues simultaneously and independently affect reading comprehension and retelling?" (See study-profile sheet 19). Another feature of Beebe's study, and one which leads to its classification here as one of the few existing studies at the INTERACTIONAL level of investigation, was that she used a complementary procedure of silent reading, cloze-tests and oral reading error analysis. In doing so she was able to investigate the largely unvalidated assumption that oral reading error analysis is an effective procedure for gauging what a reader does when reading silently. Beebe found that corrected and syntactically-semantically acceptable errors added to, rather than detracted from, the understanding of a story. She further found that the corrections and acceptable miscues were common predictors of reading comprehension and retelling ability. She concluded that the analysis of oral SUBSTITUTION errors is an effective way of inferring the kinds of errors which may occur in silent reading.

Beebe's study has thus made a useful contribution to oral reading error research at the INTERACTIONAL level of investigation and is one of the very few studies that attempts to investigate both silent and oral reading performance. The study does have the

AUTHOR

BEEBE, M.J. (1980)  
'The effect of different types of  
substitution miscues on reading'

PURPOSE OF STUDY

To discover to what extent  
SUBSTITUTION miscues might affect  
silent reading comprehension and the  
retelling ability after oral reading.

AGE OF READERS

10 year olds

SAMPLE SIZE

46 (all boys)  
(1 test session per child)

BACKGROUND INFORMATION

Readers 'at or above a grade 4 level'

MATERIALS

A passage of suitable difficulty from  
the Guthrie-Seifert Maze Task.  
(A modification of cloze-procedure:  
reader selects correct word from 3  
alternative words.)

MISCUE CATEGORIES

SUBSTITUTIONS

FINDINGS

As the number of SUBSTITUTION miscues increased the retelling and comprehension scores decreased. However, it was found to be the unacceptable miscues which detracted from the retelling and comprehension of the story whereas self-corrections and syntactically/semantically acceptable miscues added to the understanding of the passage. The corrections and acceptable miscues were important common predictors of comprehension and retelling scores.

disadvantage, however, that the 46 subjects were all boys and that although they each read the same passages Beebe gives very little indication of their actual reading ability.

Apart from Beebe's study and the research by Browne (1985) mentioned in a previous section of this chapter, the present author was unable to discover any examples of oral reading error research which placed children's reading errors in a wider context by investigating other aspects of their reading performance or language skills. For example although, thanks largely to the lead given by researchers such as Reid (1966); Downing (1970, 1979) and Clay (1972), we now have a good deal of information about what Clark (1985) has called "readiness and the language of reading" we still have little knowledge about how, in a behavioural sense, a child's developing concepts about the language of books are translated into reading behaviour. Having said this it must be acknowledged that case studies of young children's encounters with print have recently provided valuable insights into the functional aspects of pre-school language experience. For example, van Lierop's account of the processes which led to SONIA's precocious reading ability provides a delightful example of how early literacy appeared to result from a combination of predisposing factors. Not least of these was SONIA's fascination with individual letters and words and the way she incorporated these into her world of play and imagination (van Lierop, 1985).

Such case studies have obvious value but since many similarly time-consuming projects would be needed in order to build up a picture of the gradual translation of concepts about print into reading behaviour there is perhaps also a place for larger-scale

studies which attempt to investigate the relationship which might exist between children's oral reading performance and their metalinguistic knowledge. It would be useful, for example, to discover whether, in the case of poor readers particularly, there may be a mismatch between the knowledge they have about reading and the way they are able to put such knowledge into practice. It may be, for example, that poor readers possess skills, say the ability to make use of contextual cues, of which they remain relatively unaware and that this may lead to an inability to call on such skills when they are most needed. Perhaps if such readers could be helped towards an increased metacognitive awareness of what they can do they would be in a better position to capitalise upon these strengths in their encounters with problem-words. If information could be gathered about a child's oral reading errors and placed in the context of his metalinguistic knowledge some progress might be made in investigating the existence and the effects of a "mismatch" between oral reading errors and a child's concepts about reading and written language.

The study undertaken by the present author aimed to open up this line of enquiry by collecting data on the oral reading errors and the metalinguistic knowledge of a group of 52 eleven year old remedial readers. In the absence of any specific literature directed towards such investigation the impetus for the study came largely from conversations with children about reading and reading instruction. Chance discussions and random observations during a short period spent as an English teacher suggested quite strongly that some children 'knew' a good deal more about reading than they could 'do' about it, whilst the reverse appeared to be true for other children. In retrospect, the comment that acted as a catalyst and provided the

'germ' of the study to be described in subsequent chapters came during a conversation with VANESSA, an 11 year old reader who was talking about the help she gave to her 5 year old brother:

"Little books (she meant introductory texts) have pictures to help the children know what the words are. They should tell you that when you're little. They just keep telling you to "look at the pictures" but you don't why".

Thus on the INTERACTIONAL level of investigation the present author's study had an important aim which can be 'summarised as follows:

AIM: to investigate the existence of a possible "match" or "mismatch" between the oral reading errors and the metalinguistic knowledge of 11 year old remedial readers.

### Summary

This chapter has identified some of the levels of investigation possible through oral reading error research and has placed the aims of the present author's study within the context of existing literature in the field. We have seen that in their attempts to understand children's strategies for extracting meaning from print, researchers have focussed on what the present author has termed the DESCRIPTIVE, DEVELOPMENTAL, CONTEXTUAL, TEXTUAL and INTERACTIONAL levels of investigation and that in the main attention has been

concentrated upon beginning readers and/or upon 'average' readers who are still in the early stages of reading instruction. Consequently there is presently very little information available about the oral reading errors of older children who, despite several years of instruction, still experience difficulties with reading.

In the following chapter the aims of the present author's study of 52 eleven year old 'remedial' readers in their first year of Secondary education are summarised. The chapter also describes the background against which the study was conducted by providing details of the organisational features of the school in which the research took place.

PART TWO

PLAN AND PROCEDURE OF THE STUDY

## CHAPTER 3

### A SUMMARY OF THE AIMS OF THE STUDY AND BACKGROUND INFORMATION ABOUT THE SCHOOL IN WHICH IT WAS CONDUCTED

The overall aim of the study to be reported in subsequent chapters was to describe the reading behaviour of 52 eleven year old Secondary school 'remedial' readers as it appeared through the qualitative analysis of their oral reading errors and their verbalised metalinguistic knowledge. The integral parts of this overall aim were outlined in the previous chapter where existing oral reading error research was reviewed. However, for convenience these specific aims can be summarised more concisely as follows:

1. To provide a description of the relative frequencies of the REFUSAL, OMISSION, INSERTION and SUBSTITUTION errors made by the children on three types of text.
2. To describe the qualitative nature of the REFUSAL, OMISSION and INSERTION errors and to make a detailed qualitative analysis of the SUBSTITUTION errors in order to draw inferences about the children's reading strategies and their reading 'strengths' and 'weaknesses'.
3. To consider whether or not the 'quality' of the children's SUBSTITUTION errors differed according to: (a) their measured reading ability (Better, Fair or Poorer). (b) the 'accessibility' of the text under consideration (SELF, PEER or CLASS-text).



4. To focus particularly on the children's use of the linguistic context in reading 'difficult' words.
5. To investigate the children's perceptions of their own reading ability and problem-solving strategies, along with aspects of their metalinguistic knowledge.
6. To consider whether a 'match' or a 'mismatch' existed between the reading strategies suggested by the analysis of the children's oral reading errors and the their verbal reports of the strategies they used in order to solve 'unknown' words.

#### **An additional aim - a 'reader-centred' study**

An important additional aim of the present author was to produce a study which was 'reader-centred' as opposed to 'data-driven'. That is, the author wished to tread a middle-path between the large-scale study where each reader becomes a 'subject' to be 'tested' by a relatively anonymous researcher (often on only one occasion), and the small-scale study which, though it may provide a very detailed account of the reading behaviour of a few children, has the disadvantage of lacking any degree of generalisability. Whilst both large-scale and small-scale (case) studies have their own contribution to make to our understanding of the reading behaviour of older 'remedial' readers, it was felt that a study which was neither too large-scale to preclude an 'individual focus' nor too small-scale to completely preclude 'generalisability' could also be of value. Thus the present author decided to focus upon 52 children who constituted the whole intake of First year 'remedial' readers in one medium-sized Comprehensive School. This decision meant that each of

the children could be seen individually on several occasions by the author, with whom they would have the opportunity to build up a reasonably relaxed relationship. This was felt to be important since one type of text which each child would be asked to read was to be based on his or her oral language. The production of these 'tailor-made' texts, transcribed from the children's own speech, depended upon the development of an 'easy' relationship between the author and the children - one which would promote verbal interaction which was free enough to allow them to talk about themselves and their interests with as few inhibitions as possible. Furthermore, during subsequent 'structured interviews' the children's perceptions of their own reading ability and problem-solving strategies were to be investigated. A sample-size of 52 was small enough to facilitate the 'secure' relationship between the researcher and the reader which the investigation of these fairly sensitive issues demanded. However, since the 52 children who were to participate also constituted the school's whole First year intake of pupils with a history of reading difficulty, the data produced by the study would also have the advantage of being able to illustrate something of the range of reading strategies and problems which the specialist remedial and English teachers in one Comprehensive school were likely to encounter from 'new' pupils during their first months in the Secondary education system. Whilst data collected in one school could hardly hope to be 'generalisable' in any real sense it was hoped that they could at least be useful in generating questions which might be asked about 'older' remedial readers' reading strengths and weaknesses in future research.

Thus the sample-size of 52 did not reflect an arbitrary decision: rather it was dictated by the school's intake of children

who had been identified as having reading difficulties and who were therefore regarded as needing varying degrees of 'remedial help'. Information about the school, its organisation and the kinds of 'remedial help' available is given below.

### The School

The school in which the main study took place is a medium-sized comprehensive on split adjacent sites. It is situated in a small rural market town approximately ten miles from the centre of Stoke-on-Trent. The age-range of the pupils is eleven to eighteen years and there are three school sections: Lower School (First, Second and Third Year); Upper School (Fourth and Fifth Year); and Sixth Form (Upper and Lower). The number of pupils on roll at the time of the study was 1165.

The school is arranged on a horizontal, (or year-group) basis with the Lower School building occupying a site approximately 500 yards from the Upper School/Sixth Form building.

A system of 'banding' and streaming exists in the school. First year pupils are placed in mixed ability groups with the exception of those pupils placed in the special 'remedial class' (see below). In the Second and Third years pupils are placed in two parallel-ability bands with additional facilities for 'setting' (according to ability) for subjects such as English, Maths. and Languages. In years Four and Five the composition of the groups of pupils is determined by their chosen 'subject options' and also by the level of examination, (O level or C.S.E.) for which they are to be entered at the end of the Fifth Year. There is provision for extra servicing in English and

Maths.by the Remedial Department throughout the Lower and Upper School and this is operated via an 'extraction' system which will be described below. Sixth Form entry is open to pupils wishing to follow either a one year, (additional) O.Level course, or a two year course leading to A level examinations.

### **The Remedial Department: structure and organisation**

The 'Remedial Department', (as it is known by staff and pupils) is situated on the Lower School site and is housed in a series of 'mobile' classrooms a short distance away from the main school building.

The department accommodates three special 'remedial classes' - one class for each of the First, Second and Third years of the school. The total number of pupils in the department is usually around 60 with slight variations over the year according to the number of pupils moving from remedial to 'main-stream' classes, and vice versa. Movement of pupils in a typical year averages around 20% overall (i.e. 3/4 pupils in each year-group moving to 'main-stream' classes, these often being replaced by main-stream pupils deemed to be in need of remedial help in basic skills). The average class-size in the department thus tends to remain at around 20 pupils. Boys outnumber girls, though only to a slight degree, the sex-composition of a typical class being 11 male/9 female.

At the time of the study the Remedial Department had 5 full-time staff members, (2 male/3 female), including the (female) Head of Department. All the staff were originally Primary School trained but have since had considerable experience as Secondary School 'remedial

teachers'. There had been no staff changes during the five years immediately preceding the study. The Head of the Remedial Department and the staff operated very much as a 'team', each of them taking special responsibility for an aspect of the curriculum of the 'core' subjects taught within the Department, (English, Maths., Geography, History, Religious Knowledge). Specialist/practical subjects such as Games, Science and Art are taught in the main school by 'main-stream' staff. Thus the Remedial Department pupils, though they were based within the Department, experienced day-to-day contact with 'main-stream' staff as well as close contact with 'remedial staff'. The pupils followed a curriculum which was similar in 'breadth' to that of the main-stream pupils with the exception that they did not study French or German and their Maths. and English lessons extended to eight 35 minute periods rather than the usual five.

In addition to catering for the needs of pupils within the Department the remedial staff also serviced main-stream classes by providing facilities for 'extraction groups'. These consisted of small groups of pupils, (or individual pupils), drawn from the First, Second and Third Year main-streams. Such groups were made up of children who, although they needed remedial help in literacy and/or numeracy, were not considered to have sufficient learning problems to warrant full-time inclusion in a remedial class.

A typical extraction group varied in size from 2 to 5 individuals though the total number of pupils 'on extraction' from the first three years of the school tended to be around 40. Numbers fluctuated throughout the year according to the needs of the pupils and there were usually more children on 'extraction' during the

Autumn term of the academic year. Extraction pupils visited the remedial department, usually for two 35 minute periods per week, when their main-stream class was timetabled for English or Maths.

Further details of selection procedures and teaching methods used by the remedial department staff with respect to both 'remedial' and 'extraction' pupils will be presented below when the children who participated in this study are described.

### The children who took part in the study

The children who took part in the study, (31 males and 21 females), constituted the whole of the school's First Year intake of children identified as needing, or being likely to need, remedial help of varying degrees. The sample size was thus not arbitrary as will be explained below.

Within the group of 52 children three sub-groups could be identified due to the system and organisation of remedial teaching in the school. These three groups may be described as 1. The Remedial group; 2. The Extraction group, and 3. The Main Stream group.

#### **1. The REMEDIAL group - (n 19; 11 male, 8 female)**

At the beginning of the academic year in which the study took place the First Year 'remedial class' consisted of 19 pupils, 11 males and 8 females. These children were based in the Remedial Department throughout the year although they 'visited' the (main) Lower School building for lessons in specialist subjects, (Games, Science etc.) as mentioned above.

Children were taken into the Remedial Department, mainly on the recommendation of their Primary Schools after consultation between the Primary School staff and the Head of the Remedial Department of the Secondary School. (The Head of the Remedial Department visited the four Primary 'feeder' schools for this purpose). On arrival in the Remedial Department the Neale Analysis of Reading Ability was administered.

When the study began the reading ages of the 19 children ranged from 7:2 to 10:5 and their chronological ages from 11:0 to 11:11. The average reading age of the group, upon entry into the Department was 8:5 and the average chronological age 11:6. (The average discrepancy between the children's chronological age and reading age was thus 3:1 years, although, as the range shows, there were wide individual differences.

Although the main criteria for the inclusion of a pupil in the remedial class was the child's reading age and ability in written English, an individual pupil's numeracy, attitude and aptitude was also considered to be important. For example, the pupil with the highest reading age in the group was considered suitable for inclusion in the full-time remedial class because despite her reading ability, her general level of attainment in school work was poor. Her behaviour was described as being "immature" and the teachers felt that she would not use her ability to its fullest extent in a mixed-ability class. It therefore seemed appropriate to the Head of the Remedial Department, (who had previously had consultation with her Primary School teachers), that she be placed within the Remedial Department. It was hoped that she would benefit from the opportunity to relate to a small number of specialist staff. Thus whilst

'testing' and attainment levels played a large part in the decision as to whether a pupil should become a 'remedial' or 'main-stream' class-member, considerations of attitude and behaviour were also important determiners. In the words of one of the teachers, the children placed in the Remedial Department were typically "low achievers" who were also often considered to be "emotionally and socially immature". Also, apart from being described as exhibiting a "poor attitude" to school-work generally, some of the pupils were considered "disruptive" in terms of their general behaviour, compliance with instructions, and social interaction with their peers.

#### The teaching of reading in the Remedial Department.

As mentioned above, the timetable of the Remedial Department was similar in breadth to that operating in the 'main-stream' classes with the exception that remedial pupils received extra timetabled sessions for English and Maths., (eight 35 minute sessions instead of the usual five), and they did not study a foreign language.

As regards the teaching of reading, one of the main objectives of the staff was to ensure that the pupils received a "good grounding in phonics", (quote), since it was felt that the lack of basic phonics knowledge, ("missed out on" during early school years), was largely responsible for, or at least likely to exacerbate, the reading difficulties which the children displayed. In accordance with this phonics objective Stott's (1970) Programmed Reading Kit was used and this was complemented by the use of the SRA Corrective Reading Programme.



Although 'class teaching' was included in the week-by-week teaching of English/reading, (e.g. in a 'class reader' session, discussed later), small-group teaching and teaching on an individual basis was made possible by 'tandem-teaching' sessions on two of the eight timetabled periods per week. (These tandem-teaching sessions involved 2 staff-members teaching the whole group, usually in one classroom, and thus brought the staff-pupil ratio down to just under 1:10). The tandem-teaching sessions facilitated the small-group teaching of phonics, spelling and reading comprehension, and time could also be used for 'listening to readers' which was felt to be very important. The teachers tried to ensure that each child in the remedial class read aloud to one of them on at least one occasion per week although this did not always prove possible.

Generally then, the teaching of reading in the Remedial Department had what might be termed a 'phonics base'. The teaching utilised a reading scheme which was complemented by selected 'individual readers', and the teachers organised (limited) facilities for small-group and individual tuition. As mentioned above 'class-teaching' also took place and included the use of a 'class-reader' during one of the eight timetabled English sessions. The caring and committed attitude of the teachers was very evident to any visitor and the general philosophy within the Department, (difficult to operationalise given the constraints of time etc.), was that tuition should be fitted to the individual needs of the pupils and to overcoming the specific reading difficulties which they presented.

## 2. The EXTRACTION group - (n 17; 11 male, 6 female)

The number of First Year pupils 'on extraction' at the beginning of the study was 17, (11 males and 6 females). Their reading ages (Neale) ranged from 8:11 to 10:2 and their chronological ages from 11:1 to 12.0 years. The average reading age of the group of children was 9:4 and their average chronological age was 11:7. (Thus the average discrepancy between their reading age and chronological age was 2:3 years).

The 'extraction' children, though here referred to as a 'group' were in fact members of 6 different 'main-stream' First Year classes. They had been identified as being in need of remedial help with reading in the same way as the children who formed the 'remedial group'. However, their degree of reading difficulty and their attitudes towards school work etc. meant that they were thought not to warrant full-time inclusion in the remedial class. These children thus 'visited' the Remedial Department, usually for two 35 minute sessions per week, during periods when their own, (main-stream) classes were timetabled for English. As already mentioned the 17 children came from 6 different classes and thus attended for 'extraction' as small groups - the largest group from any one main-stream class being 4 and the smallest 2. As might be imagined this system called for a great deal of organisation on behalf of the Head of the Remedial Department since it meant that she, or one of her staff, must be free to take a visiting 'extraction group' at a time which was determined by the organisation of the timetable of the main-stream First Year classes in the school.

The teaching of reading during 'extraction sessions' varied according to the perceived needs of the children and a 'typical' session is thus difficult to describe but it might involve any or several of the following components: SRA cards; 'cloze-type' comprehension exercises; a phonics or spelling session; or 'reading aloud'. A programme of remedial help for each child was devised by the remedial staff in consultation with the main-stream English teachers. Progress could then be monitored in both 'extraction' and 'main-stream' sessions, (since the extraction pupils still attended three of the timetabled five main-stream English lessons along with their main-stream class peers).

Extraction sessions took place in a separate (free) classroom within the Remedial Department and, depending upon the availability of staff, the children in a certain group might receive help from a different teacher on each of their twice-weekly visits.

**Note:** In several ways the 'extraction children' might be described as getting the 'best of the deal' as regards special help with reading difficulties. i.e. they had consistent near-individual attention and the twice-weekly sessions took place in the relative tranquility of a separate classroom.

### **3. The MAIN-STREAM group - (n 16; 9 male, 7 female)**

The 'main-stream' group (as their label implies) were children who, although they were felt to be likely to need help with reading, were based in the main-stream First Year classes of the school and were not, in fact, receiving any specialist help from the staff of the Remedial Department. In this sense, although the children had

been identified (loosely) as 'remedial readers' upon entry to the school, they were perhaps better described, (in the author's terms), as 'readers at risk'.

At the time of the commencement of the study the reading ages of the children in this 'main-stream' group ranged from 9:1 to 10:10 and their chronological ages from 11:2 to 12:0 years. Their average reading age was 10:2 and the average chronological age 11:7. (The average discrepancy between the children's reading ages and chronological ages was thus 1:5 years.)

Like the 'remedial' and 'extraction' groups described above, the main-stream group had been identified through consultation with the staff of their 'feeder' Primary Schools and by the administration of the Neale Analysis of Reading Ability during the early part of term. Although their reading ability was lower than average, their attitudes towards school work and their general behaviour, (the details were gleaned by the remedial staff from school records and during consultation with Primary teachers) was such that they were felt to be on the 'fringe' of children needing specialist help with reading. In an ideal system some 'extraction' sessions might have been offered for these children but as this was not possible for too many incoming First Years the extra help of these main-stream pupils was confined to (rare) spare moments of their English teachers during their normal timetabled English lessons.

The 'main-stream' children, though not 'remedial' in the sense that they were receiving specialist remedial help, were included as participants in this study because they represented a proportion of the school's incoming First Year pupils identified as being likely to

need extra help with reading. Given an imperfect system, or, from another point of view, a system which relies on the good offices of the mixed-ability 'main-stream' English teacher, the children were judged likely to be able to cope without specialist help. Their progress was monitored (though not, as far as could be ascertained, through any formal assessment) by their main-stream English teachers with the possibility that they could be "put on extraction" if the need arose.

#### **A concluding comment on the children who participated in the study.**

In terms of reading ability, discrepancy between reading age and chronological age, and reading difficulties the 52 children who participated in the study represented the whole spectrum of individual differences which were to be encountered by the specialist (and to a lesser extent the main-stream), English teachers of the school.

In terms of individual differences in aptitude, attainment and general attitude towards school work, the 52 children represented that portion of the school's incoming First years who had transferred to their Secondary School taking with them a history of under-achievement in reading development.

Each child was seen by the author on nine separate occasions throughout the period September, 1982 to July, 1983. Details of the purpose and nature of these 'sessions' are described in the next chapter.

## CHAPTER 4

### METHOD: the 9 "sessions"

As stated in the previous chapter the overall aim of the present author's study was to describe the reading behaviour of a group of 52 11 year old Secondary school remedial readers as it appeared through a qualitative analysis of their oral reading errors and their verbalised metalinguistic knowledge.

Each pupil was seen individually on 9 occasions throughout the period September 1982 to July 1983. Each occasion is henceforth referred to as a 'session'. The sequence and nature of the 9 sessions is summarised below in Table 4.1 and their purpose explained in more detail as the chapter proceeds. The reader's attention is particularly directed to sessions 2 and 3 since these involved the production and the reading of the 'self-generated texts' which were an important feature of the study. (The pilot work undertaken in order to test the feasibility of presenting readers with a text transcribed from their own speech is described in Appendix A).

Table 4.1 The sequence and nature of the 9 sessions

Session 1 (September)	General chat and introduction of the study to each child
Session 2 (October)	Taping session in preparation for the production of the SELF-texts; Schone11 Graded Word Recognition test.
Session 3 (November)	Reading session: the SELF-texts
Session 4 (January)	Presentation of the 'out-of-context' task: SELF-text 'lists'
Session 5 (February)	Reading session: the PEER-texts
Session 6 (March)	Presentation of the 'out-of-context' task: PEER-text 'lists'
Session 7 (April)	Reading session: the CLASS-text; Schone11 GWR test
Session 8 (May)	Presentation of the 'out-of-context' task: CLASS-text 'lists'
Session 9 (June/July)	Structured interviews: metalinguistic knowledge and perceptions of reading

Each of the sessions is now described in detail.

## Session 1

### **The introductory session**

The introductory sessions, conducted individually with each of the 52 children, were regarded as extremely important. They took place during September/October of the academic year and had two main objectives. Firstly, they were intended to provide an opportunity for building a rapport between the author and the children. Secondly, a major objective was to conduct the sessions in such a way that the children would be made to feel as 'secure' as possible regarding the nature and purpose of the study in which they were to be asked to participate. The author wished to prevent the children from forming negative notions about being "examined", "tested" or "compared" with each other since the procedure chosen for the study depended upon the individual children being able to talk to the author about themselves, their hobbies and their interests with the minimum anxiety or self-consciousness. It was crucial, particularly as regards the creation of the 'self-generated reading texts', (discussed below), that the children did not feel 'threatened' by the prospect of being involved in the study.

Basically the introductory sessions comprised an informal "getting to know you" chat during which the child, and the researcher, talked about themselves. The duration of the session and the subject matter varied depending upon the children's responses but a typical session lasted approximately twenty minutes and its sequence and nature is described below.



A good "ice-breaker" during the first few minutes of the session was the topic of the children's "old school", (they had just left Primary Junior), and how it compared with their new one. The majority of children were able to chat freely about this since all of them had experienced the change-over a matter of a few weeks previously. Many detailed and amusing comparisons were offered as regards "the classrooms", "the teachers" etc. but a favourite topic of comparison, and one upon which opinions differed widely was the important subject of "the dinners"! The children were also encouraged to talk about their interests and hobbies. The majority of them did so at considerable length.

During the second part of the introductory session it was the author's 'turn' to talk about herself and her 'work'. It was explained that although she was a teacher and had in fact taught briefly in that school at few years previously, she was now doing a different kind of job and was particularly interested in children's reading and reading books, and in hearing about the things children liked to do in their spare time. At an appropriate point in this discussion the children were asked if they would be willing to help in this 'work' by talking about themselves and their hobbies and by reading aloud from specially prepared 'booklets'. The notion of 'research' was explained (in very simple terms) when this seemed appropriate and a favourite question was whether or not the author was going to "write a book", and (more importantly) whether or not the child was going to be "in it". It was explained that the author did hope to write "a kind of book", and that yes, some of the things that children told her would be "in it". Most children seemed intrigued by this idea and the few shy, passive or un-forthcoming participants were reassured by the knowledge that many of their friends and class-mates

would be taking part in the study.

All of the 52 children approached agreed to take part in the study and for the most part were enthusiastic so the initial 'open' and simple explanation of the purpose and nature of the study, though time-consuming, certainly paid dividends as regards SESSION 2 when children were asked to talk about themselves at some length in order to provide material for the 'self-generated reading texts'.

Thus the introductory sessions were successful in laying the foundations of a relaxed and pleasant relationship between the researcher and the children. At the end of each session it was explained that the next session would involve tape-recording some of the children's talk so that work could begin on the special reading booklets.

**Note.** The introductory sessions described above took place over a period of approximately three weeks. Children were seen according to their availability on these first occasions but a clear record was kept so that subsequent sessions could follow the same ordinal pattern. This was felt to be important as later in the study it would help ensure that the period of time which elapsed between sessions was held constant for each child. This organisational feature meant that children whose introductory sessions took place early in September participated in SESSION 2 early in October etc. This pattern of 'staggering' sessions was maintained throughout the study.

## Session 2

i) Taping the children's speech for the 'self-generated texts'.

ii) Schonell Graded Word Recognition Test

During SESSION 1 each child had been introduced to the notion that the researcher was interested in conducting a "talking" session which would be taped in order that a special reading booklet could be prepared. The foundation of SESSION 2 had thus been laid and little difficulty was experienced as regards the presence of the tape-recorder during the sessions. Where appropriate a discussion of the nature of tapes and cassettes was initiated: most children were familiar with them and had previously heard their own voice on tape.

After an initial chat, and before the recorder was switched on, the child and the researcher discussed topics which might form part of the conversation which was to be taped. "This school" seemed one appropriate topic since, as mentioned above, all the children had just experienced the move from Junior to Comprehensive. Other topics suggested by the children were: "hobbies"; "pets" and "friends". The pilot study (see Appendix A) had suggested that children of 11 could generally sustain a conversation which would produce a self-generated reading text of approximately 350 words and that such a conversation would take about 20 minutes.

Taping the children's speech for the 'self-generated texts'.

The pilot study, as well as the author's previous work with Infant school children, had shown that an effective way of getting children

to produce speech which could be transcribed and transposed to form a written text was to maintain a dialogue with them rather than expect them to produce a monologue. The work of Wood et al (1980) was most helpful in suggesting strategies which encourage talk from children. For example, 'open' rather than 'closed' questions; the repetition of the child's last few words, and encouraging non-verbal cues are all well-documented strategies for encouraging verbal interaction and these were used to their best advantage during the 'talk' sessions. A few children, certainly, seemed rather nervous and hesitant, but generally speaking few problems were encountered in getting the children to talk and none of the 52 taping sessions had to be abandoned. The longest self-generated text produced from the transcripts was 507 words and the shortest 147 but most of the children's talk eventually led to scripts of around 350 words. The texts were reproduced in 'jumbo' print (IBM 'orator') to ensure that their type-face and layout reflected the style of the children's conventional reading books. Excerpts from the SELF-texts of IAN and ROSEMARY are provided below.

#### Administering the Schonell Graded Word Recognition test.

Session 2 also involved presenting the children with the Schonell GWR test in order to obtain a (quick and simple) measure of each child's reading age. Neale test data, collected by the teachers a few weeks earlier had been made available to the author but a more up to date and more easily obtained measure of reading age was felt to be necessary so that the same test could be used again at the end of the study. (The Neale Analysis, though obviously a more sensitive measure than Schonell, was out of the question since it would have taken far too long to administer and repeat considering that the author was

Fig. 4.1 IAN: excerpt from SELF-text

### Pigeons

We've got fourteen altogether. We keep them in my Dad's shed. He said he was only going to have two at first and then his friend got some more for him. After a while my Dad made some nesting pens for them. They're easy to look after but you have to know what kind they are. All you need to give them is a bowl of water and some corn. It's called a 'winter mix'.

When you race them you get a pigeon clock. I'm getting one off a man who's not racing any more. You take them in a basket to the place where they clock them in. After a while they put bands on them. They've got ordinary rings showing the year and then the bands when they go racing.

### Golf

I've been playing for about a month. We go to Whiston. You have to learn to hold the club properly and try to keep your arm straight. You stand with your feet apart and try to keep your arm as straight as you can.

Fig 4.2 ROSEMARY: excerpt from SELF-text

### Pets

I've got a dog called Sandy and another dog called Rebel, and a cat named Patchy. Sandy's a sand colour and he's ten years old. Rebel likes playing with a ball. They sleep in a dog kennel. They've got one each. My brother takes one of them for a walk and I take the other. We take them round the block and then bring them back again. On the field they sometimes go after a stick. If Sandy gets there first he brings it back and then Rebel tries to get it off him.

### This School

We have Geography here. We've been doing about cold days and warm days. In Science we've been finding the length of water and we've been lighting Bunsen burners. We get some water and make it bubble.

working unaided and that the minimum disruption of the children's timetabled lessons was an important factor to be borne in mind). The Schonell test, although essentially a test of the children's graphophonic skills, could at least provide the author with some precise measure of the discrepancy between their chronological and reading ages in respect of this skill. This information was important since the author wished to make a comparison between the oral reading error data collected from 'better', 'fair' and 'poorer' readers in the whole sample of 52 children. Whilst it would have been easy to assume that three such ability groups had already been distinguished by the school ('Remedial', 'Extraction' and 'Main Stream' as described in Chapter 3 above) an examination of the existing Neale Analysis data showed that this was not the case. The explanation was fairly simple: it may be remembered from the previous chapter where the criteria for the inclusion of the children in a particular group ('Remedial', 'Extraction' or 'Mainstream') were described, that reading ability, although important, was only one consideration in terms of a pupil's full-time inclusion in the remedial class. Numeracy was also an important factor as was general attitude towards school work and behaviour. Thus it was quite possible that a child with a reasonably small discrepancy between his or her reading age and chronological age had been placed in the full-time 'Remedial' group rather than the 'Extraction' or 'Mainstream' group. This possibility was borne out by the early inspection of the Neale Analysis data and its implications regarding the analysis of the oral reading error and metalinguistic knowledge data will be fully discussed in the next chapter. It is worth mentioning at this stage, however, that this potential confounding factor resulted in the 're-shuffling' of the 'Remedial', 'Extraction' and 'Mainstream' pupils (for the purposes of the analysis of their errors) into 'Better', 'Fair' and 'Poorer' groups which more

accurately reflected their reading ability as measured by the Schone11 test.

### Session 3

#### **Reading the SELF-texts**

The children's reading of their own speech from specially prepared (self-generated) texts began in November. Care was taken to ensure that the children were seen in the same order as before so that a period of approximately three weeks elapsed between Sessions 2 and 3 for each child. During this period the transcript of each child's speech had been reproduced as a SELF-text reading passage as described above.

The children were seen individually in a quiet room and were reminded of their participation in Session 2 when some of the 'talk' between the author and themselves had been recorded. Before the reading began they were further 'cued in' to the self-generated text in the sense that they were reminded of the topics they had talked about. Thus each child was fully aware of the nature of the text he or she was about to read.

The children were then asked to: "Read the booklet just as if you were reading to your teacher." They were further encouraged to use the strategies they normally used when reading aloud: "sounding out", "splitting up", "guessing" etc. and they were told that they would not be interrupted unless they got really "stuck". Thus once the reading of the text began this policy of 'no interruption' was carefully



followed. However, if, as happened in a few cases, children became "stuck" on a word or a portion of the text to the extent that they showed obvious signs of distress, the target word was 'given', i.e. the target word was pronounced and then the previous sense or phrase unit, up to and including the word, was repeated. The child was then encouraged to continue reading. (See also 'REFUSAL ERRORS' below.)

During the children's reading the author marked every error on a duplicate copy of the text. The pilot study had suggested the four major categories of error which were to be of interest in the ensuing analysis. These were: REFUSALS; OMISSIONS; INSERTIONS and SUBSTITUTIONS. An example of each type of error and the rationale for its inclusion in one category of error rather than another is given below.

#### REFUSAL errors

Simply defined, "refusal errors" were prompted by those words in the text which caused children to "stall"; i.e. to break off reading, often abruptly, and to make no observable attempt to decode the target word. Typically the child would stare at the text for a few seconds and then turn to the researcher. Sometimes the child would say something like, "I don't know that word" but this was fairly unusual and the majority of children actually said nothing but communicated their difficulties non-verbally. Examples of REFUSAL errors and the way they were recorded are provided below.

JASON:

When it can fly about my Dad puts it in a <sup>REF</sup>~~separate~~ cage.

BRIAN:

Some of the boys were about fourteen and some were <sup>REF</sup>~~eight~~.

In both examples the children, both of whom were reading reasonably fluently, "stalled" at the target words "separate" and "eight".

Thus REFUSAL errors were quite distinct from OMISSION errors, (explained below), and it was this category of error which resulted in the author providing the target word and repeating the previous phrase or sense unit, e.g. "That word is eight: 'Some of the boys were about fourteen and some were eight'".

### OMISSION errors

OMISSION errors were quite different in character from REFUSAL errors since they caused no interruption of the child's reading fluency. They were words which (possibly for reasons to be discussed later) were simply not spoken by the child. Examples are given below.

LEIGH:

A little brown one once got stuck in the fence and <sup>OM</sup>~~it~~  
got eaten by a fox.

MARK:

If I join the Merchant Navy I can see <sup>OM</sup>~~all~~ the world.

In these examples it can be seen that the omission of the words, "it" and "all" caused no disruption of the meaning of the sentence: the omitted words could be regarded as superfluous in this sense.

However, other examples suggest OMISSIONS were a function of previous SUBSTITUTION errors:

STEVEN:

You <sup>should OM</sup>~~have to~~ have scrambling boots, proper leather overalls and a full-face helmet and gloves.

TERESA:

In Science we've been doing about Rock Salt and <sup>had</sup>~~how~~ <sup>to OM</sup>~~you can~~ dissolve it and make it into salt.

In these examples the OMISSION follows a SUBSTITUTION error, or errors: "should" for "have"; "had to" for "how you". The correct words appear to have been omitted so that the meaning of the sentence containing the substituted word(s) is preserved. A further discussion of OMISSIONS and their significance as regards the reading process is included in Chapter 15.

INSERTION errors

Words inserted by the children as they read the texts were recorded as illustrated by the example given below.

CRAIG:

.....and once I took him <sup>for</sup> ^ a walk.

In this example Craig's insertion neither disrupts nor significantly adds to the meaning of the sentence. Rather it expands the phrase, "took him a walk" in a familiar and acceptable way.

SUBSTITUTION errors

Examples of the errors which fell into the SUBSTITUTIONS category are provided below. SUBSTITUTION errors occurred much more frequently than other types of error.

JOANNE:

..... she was black with <sup>big</sup> ~~beige~~ stripes.

TINA:

<sup>Our</sup>  
~~One~~ cat's called Tibbs and the other is Squirt.

LEE:

I'm doing <sup>homework</sup>~~woodwork~~.

ROBERT:

You had to use maths books and <sup>there</sup>~~they~~ <sup>plenty</sup>~~were~~ ~~pretty~~ boring.

The SUBSTITUTION errors could be very different from each other in terms of their effect upon the meaning of the passage - disruptive or otherwise - and in terms of what they suggested about the children's use of the graphic, semantic and syntactic information provided by the text. For this reason a detailed classification schedule for the analysis of this type of error was devised by the present author. This is described in detail in Chapter 5 but basically it involved making decisions as to whether each SUBSTITUTION error showed the reader's use of the graphic, semantic and syntactic information and whether it could be regarded as a 'single-source' (e.g. graphic or contextual) error or a 'combined source' (e.g. graphic plus contextual) error. However, a more detailed examination of each error was also carried out. For example: was the SUBSTITUTION error in question a 'real' word or a non-word? Was it semantically appropriate at the 'within passage' and 'within sentence' level of acceptability or only at the levels of 'preceding' and/or 'succeeding' context? Was the graphic similarity of the SUBSTITUTION error to the target word confined to 'initial letter' similarity or did it also show 'middle letter' and/or 'final letter' similarity? As mentioned above the classification schedule devised for the detailed analysis of SUBSTITUTION errors is fully described and discussed in a later chapter.

All the oral reading errors which fell into the REFUSAL, OMISSION, INSERTION or SUBSTITUTION categories described above were recorded by the author on duplicate copies of the SELF-texts. Figs 4.3 and 4.4 below show examples of the errors of IAN and ROSEMARY as they were recorded during the children's oral reading performances of their SELF-texts.

### **A concluding comment on Session 3**

During the reading of the SELF-texts it was apparent that the majority of the children enjoyed reading about themselves - often smiling as they read some reference to their pets or hobbies. Nevertheless, it was also notable that a few children, those who found their texts particularly difficult and consequently made many errors, appeared to be quite mystified by the exercise. The initial impression of the author was that these children viewed the reading of the passages as a word-by-word decoding task which had little to do with what the words, or the text as a whole, might mean - even though it was a text about them. However, whether this impression could be supported or refuted by the analysis of their reading errors is a matter which is reserved for discussion in later chapters.

### **Session 4**

#### **The presentation of the 'out-of-context' task: SELF-text 'lists'**

The sessions designed to investigate the children's use of the linguistic context whilst reading their self-generated texts began in the January of the academic year. Many researchers, notably Goodman

Fig. 4.3 IAN: excerpt from SELF-text (errors marked)

Pigeons

We've got <sup>forty</sup> ~~fourteen~~ altogether. We keep them in my Dad's shed. He said he was only going to have two at first and then his friend got some more for him. After a while my Dad made some nesting pens for them. They're <sup>easily</sup> ~~easy~~ to look after but you have to know what kind they are. All <sup>they</sup> ~~you~~ need to give them is a bowl of water and some corn. It's called a 'winter mix'.

When you race them you get a pigeon clock. I'm <sup>going</sup> ~~getting~~ one <sup>of</sup> ~~off~~ a man who's not <sup>raced</sup> ~~seeing~~ any more. You take them in a basket to the place where they clock them in. After a while they put bands on them, <sup>and</sup> ~~^~~ They've got <sup>REF.</sup> ~~ordinary~~ rings showing the year and then the bands when they go racing.

Golf

I've been playing for about a month. We go to Whiston. You have to learn to hold <sup>a</sup> ~~the~~ club properly and try <sup>and</sup> ~~to~~ keep your <sup>arms</sup> ~~arm~~ straight. You stand with your feet apart and try to keep your arm as straight as you can.

Fig. 4.4 ROSEMARY: excerpt from SELF-text (errors marked)

Pets

I've got a dog called Sandy and <sup>REF.</sup> another dog called Rebel,  
 and a cat named Patchy. <sup>Sandy</sup> has <sup>REF.</sup> a sand colour and <sup>he</sup> he's  
 ten years old. <sup>REF.</sup> Rebel likes playing with a ball. They  
 sleep in a dog kennel. <sup>They</sup> They've got one each. My brother  
 takes one of them for a walk and I take the other. We  
 take them round the block and then bring them back again.  
 On the <sup>REF.</sup> field they sometimes go after a stick. If Sandy  
 gets there <sup>REF.</sup> first he brings it back and then Rebel  
<sup>takes</sup> tries to get it off him.

This School

We have <sup>REF.</sup> Geography here. <sup>we</sup> We've been <sup>be</sup> drawing about cold days  
 and warm days. In Science <sup>we</sup> we've been finding the length of  
 water and <sup>we</sup> we've been lighting Bunsen burners. We get  
 some water and make it <sup>boil</sup> bubble.



(1973), and Smith (1978), have suggested that good readers tend to make use of both the contextual and the graphic information whereas poor readers, because they read in a 'decoding' word-by-word fashion, attend only to the graphic features of the text.

Much of the past research into readers' use of context has depended upon the use of the cloze-test procedure (Taylor 1953) which involves deleting words from the text at regular intervals and asking the reader to 'fill in the gaps' during oral or silent reading sessions. Since no graphic information regarding the target word is available in such tasks the reader has to rely on the use of contextual information. If good readers are better at the task than poor readers as many researchers have suggested (Murray 1976), then it seems reasonable to conclude that they may be able to make better use of the context.

However, there are some problems with this conclusion. As Potter (1982) points out, there is an 'inherent ambiguity' in the phrase "making use of context", since this must depend not only upon the readers' ability to apply their linguistic and conceptual knowledge, but also on the amount of knowledge they have. 'Knowledge' in this instance may be assumed to include decoding skills; grammatical knowledge; semantic knowledge and, most importantly, background knowledge of the subject matter of the text. While it may be relatively easy to obtain some measure of the reader's decoding skills, for example by administering a word recognition test, the other prerequisite skills which cloze-test procedure both assumes and melds together are less easy to measure and control. In particular, background knowledge of the text to be read raises a knotty problem since, unless the subject matter of a text is very familiar one might

assume that the good reader will always know more about the meaning of the words, and thus the meaning of the text, than the poor reader. As Potter (1982) points out, it can be argued that one can never know the meaning of a word, rather it is a question of how much is known about the meaning of a particular word in a particular context. (One only has to consider what is done to the word "tree" by putting the word "shoe" before it; UB40 is a 'rock group' to some but something quite different to others!)

In a real sense then, the territory which one word covers can be so vast that for each individual who hears it or speaks it that its meaning is dictated by that person's own particular frame of reference or 'set'.

In view of this it is difficult to see how cloze-test procedures can cope with this problem of prior knowledge or 'meaning' in any satisfactory way - different readers of the same text, even if they have similar decoding skills, begin at different vantage points for a variety of complex reasons. As regards poor readers, if we wish to discover anything meaningful about the use they make of linguistic context we must address ourselves to two fundamental questions. The first question is whether or not remedial readers are able to use the information offered by the linguistic context; the second question relates to whether or not they are willing to do so in different reading situations.

As regards the first question of whether or not remedial readers are able to use the linguistic context it is important to devise a task which takes account of their reading skills and makes the text accessible. (There is little point in offering a passage so difficult

that readers fall at the 'first fence'.) Since the self-generated texts had been based on the children's own speech about topics which they had chosen, and since the passages thus reflected their own vocabulary, grammatical knowledge, semantic knowledge and background experience, it could be assumed that the texts provided each child with the optimum opportunity as regards access to the information to be gained from the use of linguistic context. A task, based on the children's prior reading of these texts, and designed to show the reader's reliance, or otherwise, on the linguistic context, could give a clear indication of their ability to make use of contextual information.

The second question, concerned with whether or not remedial readers are willing to use the information offered by the linguistic context is obviously much more difficult to investigate but it seemed, from initial comparisons of their Schonell test performance with their SELF-text readings, that the remedial readers who participated in the present author's study had certainly been willing to capitalise on their ability to use contextual cues in that reading situation.

Two examples will clarify this point:

IAN (reading age: 7:2/chronological age 11:3)

Ian had been unable to read words such as "dream" and "biscuit" on the Schonell test but was nevertheless able to manage such phonetically irregular words as "pigeon", "straight" and "racing" on his self-generated text.

ROSEMARY (reading age: 7:3/chronological age: 11:5)

Rosemary was unable to read "think" or "downstairs" on Schonell but could nevertheless read words such as "science", "lighting" and "length" from her self-generated text.

It seemed obvious that these children, whose de-coding skills were poor by any standards, were capitalising on the information provided by the linguistic context of their self-generated texts. This assumption was one which could be tested in a very simple way. If a selection of "difficult words" from their self-generated texts - words which had been read correctly in that context - were re-presented out of context then some interesting comparisons might be made. How would Rosemary fare when the word "science" - a word she had spoken and already read correctly - was presented "cold"? Would Ian still manage the words "pigeon", "straight" and "racing" without the help of the contextual cues provided by his self-generated text? If he could the paucity of his decoding skills as measured by Schonell seemed questionable. If he could not then he was obviously willing and able - given certain circumstances - to make use of contextual information in a very efficient way.

Thus twenty difficult words - read correctly in the context of the SELF-texts - were selected for each child. Three criteria were used as regards the definition of a "difficult word", i.e. the words were either polysyllabic, phonetically irregular (or both), or they were contracted forms such as "you're" or "I've". Examples of the lists prepared for Ian and Rosemary are given in Table 4.2.

A list of 'difficult words previously read correctly' was prepared in this way for each of the 52 children participating in the study. The 'out-of-context' sessions were conducted in a quiet room and the children seen individually as usual. The children were told that they were going to be asked to read aloud a list of words and that the author was not going to help them unless they got really 'stuck'. As before they were asked to read normally, just as they did when reading aloud to their teacher. When the task began the author, using a duplicate list, recorded all errors made on the 'out-of-context' lists.

Table 4.2     Examples of 'list' words previously read correctly:  
SELF-text

IAN's list

they've  
other  
pigeon  
straight  
something  
swapped  
racing  
kind  
twice  
beginning  
friend  
know  
junior  
thimble  
I'd  
properly  
place  
finished  
fourteen  
rather

ROSEMARY's list

I've  
other  
years  
lighting  
sometimes  
named  
length  
walk  
warm  
kennel  
burners  
called  
finding  
colour  
water  
playing  
brother  
Science  
round  
Bunsen

## Session 5

### **Reading the PEER-texts**

Session 5 was a "reading" session during which each child was presented with the task of reading aloud another child's SELF-text. The purpose of the session was to provide additional oral reading error data which would eventually be analysed in order to discover additional information about the children's reading strategies whilst reading texts which, it was assumed, would be less accessible than their own texts.

The children were matched in terms of sex and reading age so that each child was presented with a PEER-text which had been 'originated' by a class/group-mate of similar reading standard.

Before reading the PEER-text each child was made fully aware of the nature of the task and understood that the 'booklet' to be read 'belonged' to another child in the group (although the 'originator' was not named). Generally speaking the children seemed quite as intrigued by this idea as they had been by reading their own texts in the earlier part of the study.

The instructions to the children were the same as those given during Session 3 and the oral reading errors which occurred on the PEER-texts were recorded as before, and categorised as REFUSALS, OMISSIONS, INSERTIONS and SUBSTITUTIONS. The errors were subsequently subjected to the same quantitative and qualitative analyses as those which had occurred during the SELF-text reading sessions.

Session 6**The presentation of the 'out-of-context' task: PEER-test 'lists'**

Session 4 had involved the children reading a list of 'isolated' words which had already been read correctly within the context of the SELF-text. In Session 5 they had read the PEER-texts and their oral reading errors were recorded. In Session 6 their use of the linguistic context during these PEER-texts could be investigated through a second presentation of lists of 'difficult' words previously read correctly. The criteria for the selection of the 'difficult' words from the PEER-text were the same as before. IAN and ROSEMARY's lists are presented as examples below.

Table 4.3     Examples of 'list' words previously read correctly:  
PEER-texts

<u>IAN's list</u>	<u>ROSEMARY's list</u>
budgie	guinea
dead	Russell
badges	kitchen
friends	noise
Mary's	Joey
saddle	horse's
died	saddle
wasn't	whip
buried	outside
night	night
quite	white
wouldn't	die
used	riding
smashed	uncle's
didn't	I've
couldn't	ripping
hairs	jacket
walk	dog's
another	four
goldfish	clean

As before each of the children was seen individually in a quiet room and the errors made in the reading of the 'list' words were recorded. The results are reported in chapter 16.

### Session 7

i) Reading the CLASS-text.

ii) The Schone11 Graded Word Recognition test

Information about the oral reading errors of the children had so far been confined to their reading performances on specially created texts. Some indication of their reading strategies, as indicated by an analysis of their errors made on a more conventional text, was also desirable.

Consultation with the teaching staff revealed that one of their policies in teaching English was to provide what they referred to as a 'class reader'. 'Class readers' were chosen, by the teachers, from a stock of short adventure-type stories kept in the English Department. Typically, one lesson per week, i.e. a 35 minute period would be set aside for 'class reading'. This activity involved a 'public' reading of the chosen text by the teacher and by class members who would be called upon to read short passages. In order to obtain information about the children's oral reading errors on such a text it was decided that a passage taken from an 'intended' class reader would be used. After consultation with the head-teacher of the Remedial Department, a passage from Diamonds in the Dirt by A. Campbell was chosen. None of the children had previously read the book but it was shortly to be



used as a class reader and as such it was typical of the style and difficulty of text which the children would encounter during the first year in the Secondary School.

A passage consisting of 397 words was reproduced from the text using the same type-face as that used for the SELF and PEER-texts. An excerpt from the passage selected is presented below.

The reading of the CLASS-texts, and the recording of the oral reading errors made by the children was carried out using exactly the same procedure as that described in reporting the SELF and PEER-text reading sessions above. The data relating to the children's REFUSAL, OMISSION, INSERTION and SUBSTITUTION errors on this text are described in Chapters 13 and 14.

The Schonell GWR test was also administered to each child during Session 7 in order to provide an up-date on their reading ages. The procedure was the same as that described above concerning the initial use of the test in Session 2.

### Session 8

#### **Presentation of the 'out-of-context' task: CLASS-text 'lists'**

Session 8 corresponded with Sessions 4 and 6 in that it involved presenting each child with a 'list' of twenty words (previously read correctly). On this occasion the words were taken from the CLASS-text. The criteria for selecting the 'difficult' words were the same as those used before although it was possible to present the

Fig. 4.5 excerpt from the CLASS-text

At their meeting, the club members decided that maybe someone had been causing accidents.

Al thought the police should know about it. He called them. An Eldorado policeman named Officer Stone listened without saying a word.

"well, what do you think?" Al finally asked.

"It's possible that someone caused the accidents," Officer Stone said. "But there is not much to go on."

"What do you mean, 'Not much to go on'?"

"I mean that your accidents sound like real accidents - nothing more. And anyway, why would anyone want to cause accidents on your track?"

"I don't know," said Al, "But just the same, would you keep an eye on things tonight? I want everything to be all right for the race tomorrow."

majority of the children with identical lists in the case of the CLASS-text since each child had read exactly the same passage. The list presented to IAN and ROSEMARY is provided as an example below:

Table 4.4 Example of 'list' words previously read correctly:  
CLASS-text

The list presented to IAN and ROSEMARY

accident  
tonight  
Officer  
business  
raced  
listened  
clubhouse  
didn't  
police  
believe  
someone  
right  
worth  
could  
fixed  
somebody  
wondered  
talked  
cause  
something

Session 9

**Structured interviews: metalinguistic knowledge and perceptions of reading**

As well as examining the oral reading errors made by Secondary school remedial readers on different texts, an important aim of the study was to glean some information as to their attitudes and 'knowledge' about reading. Since the publication of Reid's (1966) seminal work on the importance of beginning readers' conceptual processes in learning to read, the "metalinguistic" research perspective has become important. The knowledge an individual has

about language has sometimes been called "linguistic awareness" (Mattingley 1972) i.e. the awareness that a person has of the functions and features of spoken and written language. Research has typically employed open-ended questions in interviews and it has been argued that if a child lacks sufficient linguistic awareness reading will be a particularly difficult task. Both Downing (1979) and Mattingley (1972) present this view and Downing in particular has stressed that a fundamental characteristic of reading failure is concerned with readers' confusion about the functions and features of language. If, as seems possible from existing research, poor readers do not perceive the importance of using their metacognitive knowledge in reading, then these readers may be continually handicapped by ignoring relevant aspects of the reading process. Such issues obviously raise important questions for teachers, and particularly for teachers of older remedial readers as well as for those who teach beginners.

Nevertheless, in a review of the literature pertaining the children's metacognitive knowledge about reading, Moore (1982) suggested that while there are numerous studies concerning young readers, i.e. children in Primary education, very few studies have considered the importance or otherwise of the metacognitive knowledge and attitudes towards reading of older/remedial readers. In fact a literature search revealed no extant British studies concerning Secondary school children or remedial readers. Furthermore, there appear to have been no attempts to collect complementary data concerning both the oral reading errors and the metalinguistic knowledge of readers of any age. The present author's review of the metacognitive/metalinguistic literature is the subject of Chapter 17 which immediately precedes the presentation of the results of the

structured interviews to be described below.

The purpose of the structured interviews was to gain information about the children's perceptions of reading, about themselves as readers, and about the reading strategies which they believed were appropriate in dealing with 'problem' words. In addition, a section of the interview focussed on the children's understanding of certain aspects of the 'technical vocabulary' associated with print - terms such as 'word' and 'letter' - and also their knowledge and understanding of the terms associated with punctuation symbols. The open-ended question/discussion items were thus designed to investigate four areas of the children's knowledge about reading and their perceptions of themselves as readers:

1. The children's perceptions of their own reading attainment and their notions of what characterised 'good' and 'poor' readers.
2. Their notions of 'easy' and 'difficult' reading material and their self-reported strategies for solving the problem of 'unknown' words.
3. Their knowledge and understanding of some of the technical terms associated with reading.
4. Their views about the purposes of reading.

The questions used as a basis for the interviews are listed below but it is first necessary to explain that although, for practical purposes, these were set out as a typed script, each interview was intended to take the form of a conversation about reading. A major

aim was thus to get the children to talk about the four areas under study rather than to mount a specific question/answer routine. In accordance with this aim the children brought their current reading books to the interviews and they were encouraged to make use of them where necessary. The researcher also made use of the reading book at various points throughout the interview whenever this was felt to be helpful. The questions used as a basis for the conversation with each child are presented below.

Metalinguistic knowledge and perceptions of reading: the questions which formed the basis of discussion during the structured interviews

Section 1: children's perceptions of their own reading attainment  
and their notions of what characterised 'good' and  
'poor' readers.

- Q. Are you a good reader now?
- Q. How can you tell if you're a good/poor reader?

Section 2: notions of 'easy' and 'difficult' texts and the  
children's self-reported problem-solving strategies

- Q. How can you tell if a book is easy or difficult?
- Q. What do you do if you don't know a word?

Section 3: knowledge and understanding of technical terms  
associated with reading

- Q. Could you point to a word in your reading book?
- Q. Could you write a word for me?
- Q. Could you write three other words which begin with the same letter as your word? (pointing to word already written by child)
- Q. What are words made of?
- Q. Can we look at some things which aren't words?  
(The author found examples of the punctuation symbols: FULLSTOP, COMMA, QUESTION MARK, SPEECH MARK and APOSTROPHE in the child's reading book)
- Q. I wonder if you know what we call this? (e.g. FULLSTOP)
- Q. Can you tell me what it does? What is it there for?  
(The child's ability to name and explain each of the terms mentioned above was investigated in this way.)

Section 4: views about the purposes of reading

- Q. Now we've talked a lot about reading and about books. Can you tell me some of the reasons why you and other people might want to read? What's reading for?

At the beginning of the session the children were fully informed of its 'shape' and it was emphasised that the author, with whom the majority of the children by now had an 'easy' relationship, was not looking for 'right' or 'wrong' answers. Rather she wanted the children to try to explain what they thought about reading: what made it easy or difficult; the kinds of things that made them get 'stuck'

on words; what the purposes of reading might be etc. etc. It was also emphasised that the children were not going to be asked to read on this occasion but that they had been asked to bring their reading books so that they could use them to explain what they meant by an answer if they thought this was necessary.

#### **A note on the order in which the questions were asked**

As regards the order in which the questions were asked, or rather the subject areas broached, a deliberate attempt was made to ensure that each interview was "child-centred" rather than "researcher centred", i.e. it was felt to be important that the researcher, where possible, "followed the child", or at least led the child in the direction in which he or she wanted to go. Moore (1982), reviewing several studies which have focused on what he terms the "more global" aspects of children's metacognitive knowledge about reading, discusses the existence of a possible "warm-up effect" which can influence children's responses to interview items. For example, the answers to such a question as "What is reading?" can apparently be influenced by the placement of such a critical question in the interview schedule. An example of this "warm-up" effect seems evident in the work of Johns & Ellis (1976) and Canney and Winograd (1980). Studying 1655 children from grades 1 to 8 (7 to 14 year olds) John and Ellis asked the question, "What is reading?" at the beginning of the interview. They reported that 69% of the children gave responses which were either "largely irrelevant/meaningless" or were confined to mentions of "instructional procedures", ("read in books - notebooks..."). By contrast, Canney & Winograd (1980), who bore in mind this hypothetical warm-up effect evident in this earlier study, included the question "What is reading?" at the conclusion of their 15 item interview



schedule given to good and poor 8, 10, 12, and 14 year olds. Although their sample size was small, (n 24), they report, in marked contrast to Johns & Ellis, that all of the children gave meaningful answers to this question.

Reviewing such studies and considering the notion of this "warm-up effect" Moore (1982) p.124 concludes:

"The placement of critical questions in interview schedules would thus seem an important consideration in any attempt to understand children's metacognitive knowledge about reading."

However, the present author would go further and suggest that the effects of "warm-up" may not be merely confined to the placement of critical questions within the interview. Rather the placement of the interview itself, within any research schedule, is likely to be important: any attempt to understand children's metacognitive knowledge about anything surely depends to a large extent upon the existence of some reasonably secure relationship of trust and understanding between the researcher and the child. Before children attempt what is essentially a very difficult task - that of examining and verbalising their knowledge about what they know - they must surely need to believe that their views are seen as important and that they will be valued by the researcher. It seems doubtful that the relationship upon which this "willingness to divulge" depends can be built up in a "one-off" session. To know the child is, arguably, to know where (and where not) to place so-called "critical questions".

Nevertheless an interview must begin somewhere, and, after the preamble relating to the purpose and 'shape' of the session the opening discussion centred around questions and comments designed to investigate the children's perceptions of themselves as readers as

described in the structured interview schedule above ("let's talk about reading then - tell me if you think you're a good reader now").

As mentioned above, throughout the course of the 52 interviews, the author made deliberate attempts to 'follow the child' rather than follow the order of the interview schedule. For example if a child seemed to be experiencing difficulty (or reluctance) in talking about whether he or she was a 'good' or 'poor' reader in the opening stages of the interview the author would move to the questions pertaining to Section 3 (technical terms) described above. This section contained what could be viewed as confidence-building 'demonstration' items (Can you point to a word?) and gave the opportunity of a 'new start' to an interview which had begun a little awkwardly. Such a 'new start' could be made by the author saying something like "Now, I've been talking to some children from an Infant school and I asked them to show me a word in their reading books - could you do that?" A Section 1 type question could then be returned to at a later stage of the interview.

Thus although the four broad areas of interest and the questions which formed the basis of the conversations were pre-determined, the children's responses to the opening questions largely determined the sequence in which the areas under study were covered.

#### Recording the children's comments.

Whilst other researchers, concentrating their time and effort more exclusively on children's metacognitive knowledge about reading, have tape-recorded and transcribed interviews it was felt that this strategy - ideal in many ways - could not realistically be adopted by

the present author. The transcription of 52 such interview tapes would have been a mammoth task for a lone researcher working without secretarial help and the author's earlier experience of interviewing (younger) children (Henshaw 1983) had shown that it was possible to record the children's pertinent responses in writing as the interviews proceeded. Furthermore, the present author has found that children are generally quite amenable/sympathetic to the researcher's plight in such a situation. So much so that the written recording of their comments by the researcher is often transformed into a 'joint effort' where the interviewee, looking on, will help by repeating a comment or waiting patiently until it has been recorded. Also, during the few seconds that elapsed whilst a comment was being recorded children would sometimes reflect on what they had said and amend or expand an utterance. Thus the interviews were not tape-recorded but time was taken to ensure that an accurate account of what had transpired was produced. Each interview was conducted at a 'leisurely' pace and took around thirty minutes to complete. A full discussion of the information gained, and its relevance to the information gained from the analysis of the children's oral reading errors, are the subjects of the chapters in PART FOUR and PART FIVE below.

### **Concluding comments on the procedure**

The 52 children who took part in the present author's study were seen individually on 9 separate occasions throughout a period which spanned one academic year. However, it is worth mentioning as a concluding comment to the present chapter that as well as seeing the children individually on the 9 occasions described above the author was 'in and about' the Remedial Department on numerous occasions - before the study commenced, during the study and for consultation with

staff who were particularly interested to discuss the performance of various children at each stage of the study. She thus became a familiar figure to the children and was once described as "part of the furniture" by the Headteacher of the Remedial Department. The numerous visits to the school thus allowed many social interchanges between the author and the children (lunch-times, break times, etc.). Though these impromptu meetings are not reported here they deserve a mention as they served to enhance the relationship between the researcher and the children. In doing so they helped to fulfill an important general aim of the project which was to study a group of children with their full co-operation in an atmosphere which allowed them to respond to the various tasks and questions with as few inhibitions as possible.

More specifically, however, the study attempted to describe the reading behaviour of the 52 'remedial' readers as it appeared through the analysis of their oral reading errors and their responses to the questions posed during the structured interviews. Chapters 6 to 16 present the results of the oral reading error analysis whilst chapters 18 to 23 focus on the data resulting from the structured interviews. These two kinds of information are subsequently brought together in Chapter 24 which presents detailed profiles of the oral reading errors and metalinguistic knowledge of 6 representative children and poses the question of whether a 'match' or a 'mismatch' was evident in what the children did when they met a problem-word during oral reading and what they said they did when asked to describe their problem-solving strategies.

However, before the results are reported the next chapter presents some important preliminary details concerning the

'construction' of the Better, Fair and Poorer reading ability groups and of the procedures used in the analysis of the SUBSTITUTION errors.

## CHAPTER 5

### THE ANALYSIS OF ORAL READING ERRORS: SOME PRELIMINARY DETAILS.

This chapter presents an overview of the planned analysis of the errors and details of:

- i) the construction of the Better, Fair and Poorer reading ability groups for the purpose of the analysis of their errors, and
- ii) the design of the classification schedule used for the detailed analysis of the SUBSTITUTION errors.

The analysis of the errors included four main lines of investigation as follows:

#### 1. NUMBER of errors?

An estimate of the children's reading accuracy on the three types of text was provided by converting the raw data into an 'error per hundred words score' for each reader. This transformation of the data was necessary since the length of the 'tailor-made' SELF and PEER-texts differed slightly from child to child.

#### 2. PATTERN of errors?

The relative frequency of the REFUSAL, OMISSION, INSERTION and SUBSTITUTION errors was calculated by converting the raw data into 'proportional percentage scores.'

#### 3. QUALITY of errors?

The small proportions of errors which fell into the REFUSAL, OMISSION and INSERTION categories were subjected to a simple descriptive analysis designed to provide information as to what the 'quality' of the errors revealed about the children's reading strategies.

SUBSTITUTION errors were subjected to a detailed qualitative analysis (which involved the use of a specially designed 'classification schedule') in order to provide information about the children's use of the graphic, semantic and syntactic sources of information from the text.

#### 4. COMPARISON of errors?

Throughout the various stages of analysis the children's errors were compared in terms of whether they had been classified as 'Better', 'Fair', or 'Poorer' readers (see below for details). The information provided by the analysis of the SUBSTITUTION errors was used to make inferences about the children's reading strengths and weaknesses as these were affected by the 'accessibility' of the SELF, PEER and CLASS-text reading materials.

Chapters 6 to 14 report the results of the analysis of the errors on the SELF, PEER and CLASS-texts whilst Chapter 15 brings together the main findings from the errors observed on each type of text.

#### The construction of the Better, Fair and Poorer reading ability groups.

The mean chronological age of the children at the time of reading the SELF-texts was 11:6 years (s.d. 0.2) and their mean reading ages (as measured by the Schonell Graded Word Recognition test) were as shown in Table 5.1 below.

Table 5.1 Mean reading ages and school reading groups

		Remedial	Extraction	Main-Stream	All
Reading age	$\bar{x}$	8.4	9.3	10.3	9.3
	s.d.	0.8	0.4	0.6	0.6

In order to gain a clearer picture of the children's reading ability in relation to their actual age a reading age 'discrepancy score' was computed for each child by deducting the reading age from the chronological age. The mean 'discrepancy scores' (in months) are shown in Table 5.2 below.

Table 5.2 Mean reading 'discrepancy scores' and school reading groups.

		Remedial (n16)	Extraction (n 17)	Main-Stream (n 19)	All (n 52)
Discrepancy	$\bar{x}$	-37.5	-28.1	-16.8	-28.1
	s.d.	11.6	7.9	7.2	12.5

As the table shows the standard deviations of the discrepancy scores were quite large, particularly for the Remedial group. This finding was not unexpected since, as mentioned in Chapter 3 'reading ability' was not the only criteria under consideration when the children were assigned to a full-time placement in the Remedial Department at the beginning of their first year. Numeracy, motivation, general behaviour and attitudes towards school were also influencing factors. To overcome this difficulty certain children were re-allocated (for the purpose of the present author's analysis of their oral reading errors) into reading ability groups which were more firmly based on their actual reading performance. To do this three groups: 'Better', 'Fair' and 'Poorer' were constructed.

As Table 5.2 shows the mean reading discrepancy score of the whole group was -28.1 with a standard deviation of 12.5. The Better, Fair and Poorer reading groups were created by using one half of a standard deviation, i.e. 6 months as the 'cut-off' point:

Better readers = children with a discrepancy score of at least 6 months less than the mean discrepancy score of -28. (i.e. <-22 months, n 19).

Fair readers = children in the middle of the distribution with a discrepancy score of between -23 and -33 months (n 16).

Poorer readers = children with a discrepancy score of more than 6



months above the mean discrepancy score of -28.(i.e. >-34 months, n 17).

Table 5.3 summarises the composition of these three groups in terms of their mean reading ages (Schonell) and their discrepancy scores.

Table 5.3 Mean reading ages (years and months) and discrepancy scores (months) of the Better, Fair and Poorer reading ability groups.

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
Reading age	$\bar{x}$	10:3	9:2	8:2	9:3
	s.d.	0.3	0.3	0.5	0.9
Discrepancy Score	$\bar{x}$	-14.8	-28.9	-42.1	-28.1
	s.d.	4.5	3.4	6.8	12.5

Table 5.4 below shows the composition of the 'constructed' reading ability groups in relation to the original school groups.

Table 5.4 School groups and (constructed) ability groups

<u>School Group</u>	<u>Ability Group</u>		Poorer	All
	Better	Fair		
Remedial (n)	2	3	14	19
Extraction (n)	4	10	3	17
Mainstream (n)	13	3	0	16
All (n)	19	16	17	52

As the table shows the most 'movement' for analysis purposes occurred in relation to the Extraction group with 4 of the original 17 children being designated as 'Better' readers and 3 as Poorer readers. This was not entirely surprising since the Extraction group children, by virtue of their being 'on extraction' were likely to be

quite heterogeneous in terms of their reading ability: a mixture of children not quite 'poor enough' to warrant full-time inclusion in the Remedial Department or not quite 'good enough' to 'go it alone' in the Main-Stream classes. The children redesignated as Better readers (n 4) and Poorer readers (n 3) for analysis purposes had discrepancy scores of -16, -17, -18 and -19 months (Better) and -35, -36 and -47 months (Poorer).

The second largest 'shift' of children from 'real' class groups to constructed 'analysis' groups involved those children who were based full-time in the Remedial Department. Three of these individuals were redesignated 'Fair' readers and 2 became 'Better' readers in terms of their discrepancy scores (Fair = -24, -33 and -34 months; Better = -11 and -15 months). The shift from Remedial to 'Fair' was not particularly remarkable in view of the already mentioned criteria other than reading ability used in the placement of full-time Remedial Department children. However, it was surprising, even bearing in mind these criteria, that 2 Remedial children (those who were included in the Better readers' group) had such low discrepancy scores (-11 and -15 months as compared with the Remedial mean discrepancy score of -37.5, s.d. 11.6). A brief discussion with the Remedial Department teachers suggested 'poor motivation' and what was described as 'an immature attitude' lay at the heart of their full-time inclusion in the Remedial class. Whether their 'motivation' and 'maturity' were likely to be enhanced in a situation where their overall academic ability seemed considerably higher than that of their peers was an interesting question for speculation - but unfortunately not a question which could be investigated in the course of the research undertaken by the present author.

The least 'movement' of readers for analysis purposes occurred with respect to the Main-Stream group: 3 of these children becoming 'Fair' readers (rather than 'Better' readers as might have been expected). The discrepancy scores of these children were -23, -28 and -32 months.

In total then the 're-shuffling' of children for analysis purposes involved 15 readers - 9 were 'promoted' and 6 were 'demoted' in order to construct reading ability groups more firmly based on the children's actual reading performances on the Schonell GWR test.

The design of the classification schedule used for the detailed analysis of the SUBSTITUTION errors.

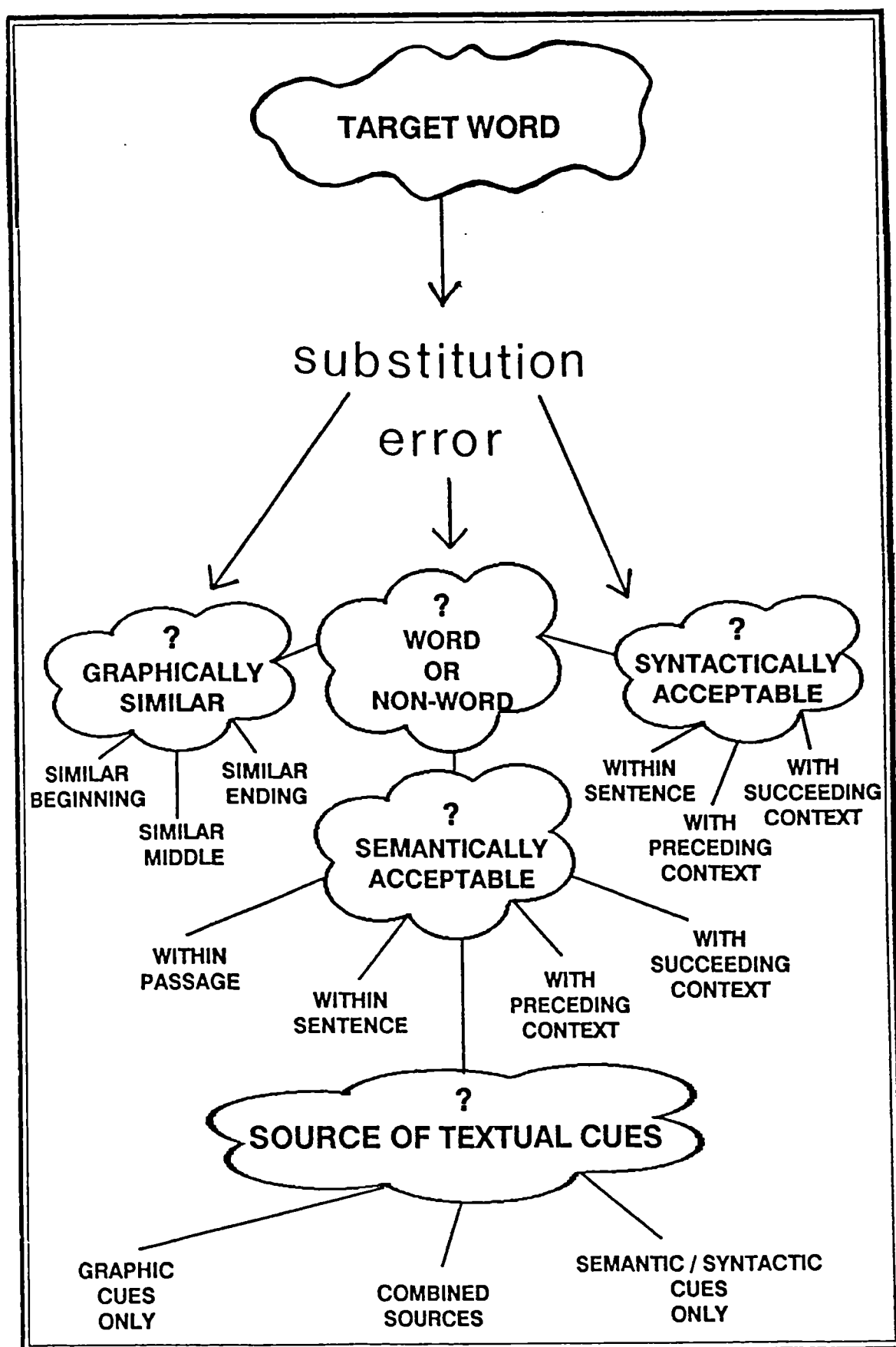
As will be reported in subsequent chapters, by far the highest proportion of the oral reading errors observed on each of the SELF, PEER and CLASS-texts fell into the SUBSTITUTION category. Since, in addition to their frequency, SUBSTITUTION errors offer the most information concerning the children's probable reading strategies, the present author devised a detailed classification schedule for their qualitative analysis. In designing the schedule the work of previous oral reading error researchers was borne in mind (e.g. Weber 1968, Goodman 1969, Potter 1982) as were the problems discussed by reviewers of oral reading error research e.g. Leu 1982, Wixson 1979). Although the analysis of the SUBSTITUTION errors which were observed on the SELF, PEER and CLASS-texts will be reported in subsequent chapters the classification schedule used in their analysis is more conveniently described here. It should be emphasised at this point that the analysis was designed to produce only nominal data. (The problems evident in researchers' attempts to produce ordinal or interval scales of measurement for the analysis of

SUBSTITUTION errors were discussed in Chapter 2.

**An overview of the classification schedule for the analysis of SUBSTITUTION errors.**

The preliminary analysis of the errors took the form of a frequency count of the proportion of SUBSTITUTION errors which had some graphic similarity to the target word and the proportions which showed some degree of semantic and syntactic acceptability (whether this be at the 'within sentence' level or only at the level of 'preceding' and/or 'succeeding' context). This 'gross' similarity/acceptability data thus gave some general idea of the children's use of the graphic, semantic and syntactic cues provided by the text in question. Later stages of the analysis looked in greater detail at the use of these sources of information and a number of questions (to be summarised in Fig. 5.1) were posed. For example, did the graphic similarity of the substituted words to the target words indicate that readers paid more attention to graphic cues at the beginning, middle or end of a word? Were SUBSTITUTIONS more likely to be syntactically and/or semantically acceptable in relation to the 'preceding' or 'succeeding' context in which they occurred? How many SUBSTITUTIONS were semantically acceptable at the sentence level, but not at the passage level? How many of the SUBSTITUTIONS appeared to be a consequence of the use of solely graphic, or solely syntactic/semantic cues? How many of the SUBSTITUTIONS were 'non-words'? An example of the SUBSTITUTIONS checklist can be found in Appendix C but, for the sake of clarity here, Fig. 5.1 will serve to acquaint the reader with its design.

Fig. 5.1 The detailed analysis of the SUBSTITUTION errors



Before reporting the results of the SUBSTITUTIONS analysis an explanation of the mechanics of the scoring procedure is necessary. As Fig. 5.1 illustrates, once a SUBSTITUTION had been classified as a word or non-word the analysis had three main elements, the graphic, the semantic and the syntactic. Each of these elements had sub-elements and these in turn led to a fourth element of the analysis: the decision as to the source(s) of textual cues used by the reader in producing the SUBSTITUTION.

Thus the only mutually exclusive decisions about a SUBSTITUTION error were those relating 1) to whether it was a word or a non-word, and 2) to the source of textual cues used by the reader in producing the SUBSTITUTION. In other words every SUBSTITUTION could be judged according to its graphic similarity as well as its semantic and syntactic acceptability (The non-words could also be judged along the graphic dimension - see below).

#### Scoring criteria for each element of the SUBSTITUTION analysis.

1. Word or non-word? An initial examination of the SUBSTITUTIONS data showed a few non-words had been produced by readers.

e.g. TARGET WORD - "woodwork"  
SUBSTITUTION - "woodbook"

It was thus necessary to include the word/non-word classification in the analysis so that readers with a tendency to produce non-words could be identified. However, since it was possible to evaluate a non-word according to its graphic similarity and to assign it to a negative score as regards each element of the

semantic and syntactic analysis, non-words went forward for further analysis rather than being disregarded at the initial stage.

2. Graphic similarity. A SUBSTITUTION which had letters in common with the 'target word' was classified as 'graphically similar'. This crude classification was then broken down into 'beginning', 'middle' and 'ending' similarity in an attempt to discover whether readers differed in the amount of attention they paid to graphic cues from different parts of the target word. (For example Poorer readers might concentrate their attention on the initial letter of the word). Examples of SUBSTITUTIONS judged to have beginning, middle and ending similarity are provided below:

#### beginning similarity

A SUBSTITUTION had 'beginning similarity' if the initial letter was the same as that of the target word

e.g.      TARGET WORD - 'doesn't'  
             SUBSTITUTION - 'did'

#### middle similarity

'Middle similarity' was recorded when a SUBSTITUTION had a middle letter (or letters) in common with the target word

e.g.      TARGET WORD - 'can'  
             SUBSTITUTION - 'came'

## ending similarity

A SUBSTITUTION was recorded as having 'ending similarity' if the final letter was the same as that of the target word

e.g.      TARGET WORD - 'another'  
             SUBSTITUTION - 'other'

As the examples suggest the 'beginning', 'middle' and 'ending' classifications were not mutually exclusive; for example the substitution of 'came' for 'can' would be recorded as having both 'beginning' and 'middle' similarity; 'other' read for 'another' would have 'middle' and 'ending' (but not 'beginning') similarity.

## Problems and solutions

Target words and SUBSTITUTIONS such as 'a' and 'I' obviously caused problems since they could not be regarded as having a beginning, middle and end. Words with only two letters, 'an' and 'it' were also problematic. The simplest solution was to regard the single-letter words as having an initial letter: i.e. a 'graphic beginning' but to record 'not applicable' in the 'graphic middle' and 'graphic ending' columns of the classification sheet. Similarly, two-letter words were assumed to have a 'graphic beginning' and a 'graphic ending' but 'not applicable' was recorded in the 'graphic middle' column. This solution prevented the inflation of the totals from which the proportional percentages of each category of graphic similarity were calculated. Table 5.5 below gives examples of the graphic similarity scores of one and two-letter words and clarifies the points made above.



Table 5.5 Scoring one and two-letter words for graphic similarity

TARGET WORD	SUBSTITUTION ERROR	GRAPHIC BEGINNING	GRAPHIC MIDDLE	GRAPHIC ENDING
'a'	'an'	✓	N/A	N/A
'a'	'has'	x	N/A	N/A
'to'	'a'	x	N/A	x
'It'	'I'	✓	N/A	x

Fortunately the problem of scoring such words as 'a' and 'an' did not arise too often as one and two-letter words were usually read correctly with the result that few SUBSTITUTIONS occurred in response to such target words.

3. Semantic acceptability. Each SUBSTITUTION was judged on 'semantically acceptable' at four levels: 'within passage'; 'within sentence'; 'with preceding context'; 'with succeeding context'. The four levels were necessary if detailed information about readers' ability to make use of semantic cues was to be gained. Examples of SUBSTITUTIONS judged acceptable at each of the four different levels are provided below.

#### Within passage

A SUBSTITUTION judged to be acceptable at the passage level was, necessarily, acceptable at all three other levels so children whose SUBSTITUTIONS always fell into this category could be identified as having the ability to make very good use of the semantic cues contained in the text.

MELANIE (re 'horse's hooves')

"It's like a pad and you have to be careful you don't  
<sup>scratch</sup>  
~~scrape~~ it off."

The SUBSTITUTION of 'scratch' for scrape was judged to be semantically acceptable at the passage level.

#### Within sentence

Many SUBSTITUTIONS were semantically acceptable within the sentence in which they occurred though they could not be considered meaningful in terms of the content of the whole passage.

ROBERT (re 'school')

"I'm doing <sup>homework</sup> ~~woodwork~~."

As the example shows 'homework' is a semantically acceptable SUBSTITUTION at the sentence level but nevertheless detracts from the intending meaning at the passage level.

#### Within preceding context

Some SUBSTITUTIONS were not acceptable at the sentence level but could be accepted as making sense at the level of the preceding context (up to and including the SUBSTITUTION and any previous errors).

IAN (re 'school dinners')

"At the other school you had to pay <sup>before</sup> ~~about~~ two pounds  
at the beginning of the week."

The SUBSTITUTION 'before' was judged semantically acceptable with preceding context since the sentence could have been continued in a meaningful way i.e.

"At the other school you had to pay before (the  
end of the week)."

### Problems and Solutions

A SUBSTITUTION which occurred in response to the first word in a sentence could not be said to have a 'preceding context' so 'not applicable' was recorded on the classification sheet and the totals adjusted accordingly. (Such errors could, of course, be scored at the other three levels of semantic acceptability).

### With succeeding context

SUBSTITUTIONS were scored as acceptable 'with succeeding context' when they made sense in the context of the words which immediately followed them (including any subsequent errors).

LEE (re 'science')

"We do <sup>experience</sup> ~~experiments~~ with Bunsen burners in Science".

The SUBSTITUTION 'experience' was judged acceptable with succeeding context since it could have formed part of a meaningful sentence:

"(We had) experience with Bunsen burners in Science".

#### Problems and solutions.

'Not applicable' was recorded in the appropriate column on the classification sheet when a SUBSTITUTION occurred in response to the last word in a sentence.

4. Syntactic acceptability. Several oral reading error researchers (Biemiller 1970, 1979; Potter 1981, 1983;) make no distinction between semantic and syntactic acceptability. Presumably they follow Goodman's view that 'the meaning of a passage is always contingent upon its grammar', (Goodman, 1969). However, the notion that 'errors cannot be semantically acceptable unless they are syntactically acceptable' (Potter 1981) seems highly questionable as regards oral reading errors - though it may hold true in a strict linguistic sense. For example a sentence read as, "I making an ashtray in metalwork" although unacceptable in syntactic terms can hardly be regarded as not meaningful - the intended message, the essential meaning of the sentence is communicated despite the syntactic problem. Thus, although it had originally been intended that semantic/syntactic acceptability would be fused in the oral reading error classification system it was apparent that such a system would be unsatisfactory. The classification system was thus revised to include a consideration of 'syntactic acceptability' on three levels: 'within sentence'; 'with preceding context'; 'with succeeding context'. (It should be mentioned here that a 'within passage' level

was superfluous as SUBSTITUTIONS which were syntactically acceptable at the sentence level were also acceptable at the passage level. As outlined above this was not necessarily the case with 'semantic acceptability').

### 'Within sentence' syntax

SUBSTITUTIONS were judged as syntactically acceptable at the sentence level when the grammar of the sentence was not disrupted.

BRIAN (re 'school')

"They <sup>had</sup> ~~have~~ a football team at this school".

### Syntax 'with preceding context'

Some SUBSTITUTIONS could be judged acceptable if the preceding context (up to and including the error and any previous errors) was taken into account.

JASON

"When people run about <sup>in</sup> ~~he~~ starts barking because he can't get out..."

The syntax was judged to be acceptable in terms of the preceding context since the sentence could have continued 'When people run about in (the garden) he starts barking because...'

Syntax 'with succeeding context'.

Some SUBSTITUTIONS could be regarded as acceptable when the succeeding context (including the SUBSTITUTION and any subsequent errors) was taken into account.

LISA (re 'school')

"I sometimes <sup>getting</sup>~~get~~ lost around this school...".

The SUBSTITUTION 'getting' was judged acceptable with succeeding context since the sentence could have read,

"(I keep) getting lost around this school..."

Problems and solutions.

As with the 'semantic acceptability' classifications, 'not applicable' was recorded in the appropriate column of the score sheet when SUBSTITUTIONS occurred at the beginning or end of a sentence since these could not be said to have a preceding or succeeding context. The totals from which the proportional percentages of acceptability were calculated were adjusted accordingly.

5. Source of textual cues. The lack of information provided by researchers regarding what might be termed 'combined source' errors in a reader's miscue profile was discussed in Chapter 1 and it was suggested that some information about readers' ability to synthesise the three different sources of information from the text - the graphic, the semantic and the syntactic - would be useful. The final

phase of the SUBSTITUTION analysis was an attempt to provide such information and the scoring procedure is explained below.

### Graphic cues only

It might be the case that the SUBSTITUTION errors of some readers stemmed from a use of the graphic information offered by the text. This would result in a substituted word which had some graphic similarity with the target word but was unacceptable in terms of semantics and syntax:

SANDRA (re 'pets')

strange  
"Their eyes are open ~~straight~~ away and  
they've got all their fur."

As the example suggests the substituted word 'strange' had 'beginning' and 'middle' graphic similarity with the target word 'straight' but SANDRA appeared to have paid no attention to the semantic or syntactic cues provided by the sentence. Such a SUBSTITUTION was recorded as a "single-source (graphic)" error.

### Semantic/syntactic cues only

Other SUBSTITUTION errors appeared to stem from a reader attending to the semantic/syntactic information at the expense of ignoring the graphic cues:

CRAIG (re 'school')

"At our old school we used to do everything in one <sup>class</sup>~~room~~"

This type of SUBSTITUTION error was recorded as "single source (contextual)". (No distinction was made between semantics and syntax in this phase of the analysis).

### Combined source cues.

SUBSTITUTIONS which demonstrated the possible synthesis of the graphic and semantic/syntactic information offered by the text were recorded as "combined-source errors". Such SUBSTITUTIONS had both graphic similarity and semantic and syntactic acceptability (at a level or levels indicated by previous elements of the SUBSTITUTIONS analysis already described above).

JASON (re 'school dinners')

".....you can have <sup>anything</sup>~~everything~~ you want"

As the example shows the SUBSTITUTION 'anything' is semantically and syntactically acceptable at all levels (i.e. 'passage'; 'sentence'; preceding and succeeding context levels) and it also has graphic similarity at the 'middle' and 'ending' but not at the beginning level. It could be hypothesised that this reading error stemmed primarily from JASON'S lack of attention to the initial letter of the target word. By contrast other readers making 'combined-source' errors might show a tendency to pay too little attention to the endings of words and this could also be detected when the various



elements of the analysis were considered:

IAN (re 'pigeons')

forty  
'We've got ~~fourteen~~ altogether'

It was worth noting that IAN'S error would receive a positive score at all but two levels of the SUBSTITUTIONS analysis: there is no 'graphic ending' similarity, and the SUBSTITUTION of 'forty' for 'fourteen' whilst acceptable at the semantic 'sentence' level cannot be accepted at the 'passage' level.

It is also important to note here that although errors may indicate the use of solely graphic or solely contextual cues, there is no actual way of knowing for certain whether or not this was the case i.e. in the case of an apparently single-source 'graphic' error it could be that the reader has attempted to process the contextual cues but without success. Similarly, the production of a 'single-source' contextual error does not indicate with certainty that no attention at all was paid to the graphic features of the target word - only that this information, if it was sampled by the reader, was not synthesised with the contextual sources of information. (For a further discussion of this point see Chapter 14)

### Reliability

The reliability of the SUBSTITUTIONS analysis classification procedure was measured with the co-operation of two independent judges. Both were English Graduates with many years of teaching experience in Secondary and Further Education as well as research

experience gained through post-graduate qualifications (M.A.; M.Ed.).

Initially each judge worked independently using a total sample of 18 texts - 6 each of the SELF, PEER and CLASS-texts with each type of text including 2 Better, 2 Fair and 2 Poorer readers.

The SUBSTITUTION errors were already indicated on the sample texts and the judges were provided with details of the classification system (including the examples of scored errors shown above) and a classification sheet upon which their decisions about each error were recorded. The scoring system was also explained verbally to each judge in a short 'training session'.

Every SUBSTITUTION error on each of the 18 texts was scored by the judges according to the criteria outlined above. The analysis of each error involved 12 decisions in all. The initial inter-judge reliability was 89% agreement. The main differences of opinion centred around whether or not errors were semantically acceptable at the 'within passage' level. The judges were brought together and asked to come to 100% agreement via a discussion of those decisions which differed. The agreed decisions were then compared with those already made by the present author and the agreement was found to be 96%.

Concluding comments on the design of the SUBSTITUTIONS analysis and a note regarding statistical inference.

In designing the SUBSTITUTIONS analysis three main aims were of paramount importance to the author; these were comprehensiveness, simplicity and reliability. Needless to say 'comprehensiveness' and

'simplicity' were somewhat antagonistic aims and the final version of the classification sheet had several more complex, but less satisfactory, forerunners. Early attempts to design, adapt or borrow systems which used an ordinal or interval scale of measurement for say, 'graphic similarity', were abandoned. (They were either too complex, too unreliable or both; see Chapter 1 for a discussion of these problems in relation to existing research). Once the use of a nominal scale of measurement had been accepted the calculation of frequencies and proportional percentages were regarded as the most useful statistics to communicate the extent of the children's use of the graphic, semantic and syntactic information from the texts as indicated by their SUBSTITUTION errors. However, a series of Chi-square tests (performed on the raw data) was useful in indicating variations in the frequency of (for example) graphically similar and/or semantically acceptable errors according to text-type and reading ability.

In sections of PART THREE of the thesis the oral reading errors on the SELF, PEER and CLASS-text are described and considered in terms of what they reveal about the reading strategies employed by the 52 remedial readers. Section 1 presents the results of the analysis of the SELF-text errors and begins with a consideration of the children's reading accuracy on these 'tailor-made' texts.

### PART THREE

#### RESULTS OF THE ORAL READING ERROR ANALYSES

Section A: The SELF-texts

Section B: The PEER-texts

Section C: The CLASS-text

Section D: Reading strengths and weaknesses

## Section A: The SELF-texts

## CHAPTER 6

## READING ACCURACY AND PATTERNS OF ERROR ON THE SELF-TEXT

In this chapter the number of errors observed during the children's reading of the SELF-text, and the distribution of the errors across the REFUSAL, OMISSION, INSERTION and SUBSTITUTION categories is reported. Chapter 7 will describe and discuss the qualitative nature of the REFUSAL, OMISSION and INSERTION errors whilst Chapter 8 focusses on the results of the analysis of the SUBSTITUTION errors which occurred on the SELF-text.

The number of errors observed on the SELF-text

The errors made by the children during the reading of the SELF-text were recorded by the means described in Chapter 4. The total number of words read by the group of 52 readers was 18,144 and the total number of errors recorded was 441 indicating a very high overall reading accuracy rate of 97.5%. Since text-lengths differed the raw error score for each child was converted into an 'error per hundred words score' (ephw) and the mean ephw computed for the Better, Fair and Poorer reading ability groups. Table 6.1 provides the findings.

Table 6.1 SELF-text: mean ephw scores for each of the reading ability groups.

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
Error per hundred words	$\bar{x}$	0.60	1.68	5.14	2.42
	s.d.	0.7	1.4	4.1	3.1

A one-way analysis of variance test (ephw x ability) showed a statistically significant (overall) difference existed in the mean ephw of the Better, Fair and Poorer readers ( $F = 15.36$ ; d.f. 2,49,  $p < 0.001$ ). However, subsequent Scheffé tests showed no statistically significant difference existed between the mean ephw scores of the Better and Fair readers. Table 6.2 summarises the results of the Scheffe tests.

Table 6.2 Results of the post hoc Scheffé tests: mean error per hundred words on the SELF-texts.

Comparison of ability groups	F. value	d.f.	significance
Better (n 19) vs Fair (n 16)	0.82	2,49	N.S
Better (n 19) vs Poorer (n17)	16.10	2,49	$p < 0.001$
Fair (n16) vs Poorer (n17)	8.48	2,49	$p < 0.001$

The conclusion from the statistical analysis of the ephw scores was thus that although the mean scores showed the Better group to have made the fewest errors and the Poorer group the most errors, there was no statistically significant difference in the reading accuracy rate of Better and Fair readers. In addition a Spearman rank correlation test showed a highly statistically significant positive correlation between the children's real age/reading age discrepancy scores (i.e. the data base for the construction of the Better, Fair and Poorer groups) and their error per hundred words scores ( $r_s = .68$ ;  $n = 52$ ,  $p < 0.001$  (one-tailed)).

#### Patterns of error on the SELF-text

Each of the 441 errors observed during the children's reading of the SELF-texts was categorised as a REFUSAL, OMISSION, INSERTION or SUBSTITUTION in accordance with the procedure described in Chapter 5. Table 6.3 shows the distribution of the errors across the four

categories (raw scores).

Table 6.3 The distribution of errors on the SELF-text (raw data)

	REF.	OMIS.	INS.	SUBS.	ALL
Number of errors	27	51	38	325	441

As the raw data indicates, by far the largest number of errors fell into the SUBSTITUTIONS category. The raw data were converted into proportional percentage scores in order to indicate the patterns of error which existed overall and for each of the three reading ability groups. Table 6.4 provides the findings.

Table 6.4 The proportion of errors falling into the REFUSAL, OMISSION, INSERTION and SUBSTITUTION categories for each of the three ability groups: SELF-text.

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
REFUSALS	%	0.0	2.0	8.3	6.1
	n	0	2	25	27
OMISSIONS	%	19.5	15.2	9.3	11.6
	n	8	15	28	51
INSERTIONS	%	4.9	6.0	10.0	8.6
	n	2	6	30	38
SUBSTITUTIONS	%	75.6	76.8	72.4	73.7
	n	31	76	218	325
TOTALS	%	100.0	100.0	100.0	100.0
	n	41	99	301	441

Looking first at the broad findings which emerged from Table 6.4 the most striking feature of the data is concerned with the high proportion of errors which fell into the SUBSTITUTION category - an overall total of 73.7%. This finding was compatible with the general consensus amongst oral reading error researchers who have studied



younger and/or more average readers that SUBSTITUTIONS are by far the most frequently occurring type of error. For example Weber (1970) reported 79.9% of all errors to be SUBSTITUTIONS and this, given the difficulties associated with the lack of consistency between researchers regarding their chosen categories of error, seems to be a fairly representative figure.

After SUBSTITUTIONS the next largest proportion of errors fell into the OMISSIONS category - these errors accounting for 11.9% of the total number of errors - whilst INSERTION and REFUSAL errors (8.6% and 6.1% respectively) accounted for the remaining 14.7% of all errors. Again these findings are roughly in accord with relative error frequencies reported in existing research conducted with younger readers (Weber 1970) although as has been noted in Chapter 1 many researchers choose not to distinguish between REFUSAL and OMISSION errors.

Generally speaking then, it can be seen from the results reported in Table 6.4 that the overall pattern of errors observed for the 52 remedial readers during the reading of their specially constructed SELF-texts was compatible with the error patterns reported by previous researchers studying younger readers' performances on 'conventional' texts. Taken together the REFUSAL, OMISSION and INSERTION errors accounted for only 26.3% of the errors whilst the remaining errors fell into the SUBSTITUTIONS category.

#### Patterns of error and reading ability: SELF-text

Looking at the patterns of error according to whether the children were Better, Fair or Poorer readers the most interesting

feature of the data shown in Table 6.4 relates to the finding that whereas 8.3% of the Poorer readers' errors were REFUSALS none of the Better readers' errors and only 2% of the Fair readers' errors fell into this category. A second feature of the table is that the OMISSION error data shows a trend in the opposite direction to the REFUSAL error data with the Better group children making the highest proportional percentage of these (19.5%) and the Poorer readers the lowest (9.3%). INSERTION errors show no clear pattern according to reading ability (though the percentage figure is highest for the Poorer readers) and the figures relating to SUBSTITUTION errors are very similar for each of the three groups.

Despite the finding that the number of errors which fell into the REFUSAL, OMISSION and INSERTION categories was so small the apparent differences in the patterns of these errors according to reading ability suggested some statistical analysis of the data was worthwhile. Given that the data from which the proportional percentages had been calculated was nominal in origin, a series of Chi-square tests was performed in order to discover whether any statistically significant variation in the proportions of errors across the three ability groups could be identified. The results of the Chi-square tests (performed on the raw data) are presented in Table 6.5 below.

Table 6.5 Patterns of error and reading ability: results of Chi-square tests: SELF-text.

Category of error	Chi-square value	d.f.	Significance
REFUSALS	8.06	2	p<0.02
OMISSIONS	5.28	2	N.S.
INSERTIONS	2.24	2	N.S.
SUBSTITUTIONS	0.81	2	N.S.

As Table 6.5 shows the only statistically significant variation in the proportional data of the Better, Fair and Poorer readers related to the REFUSAL errors. As the raw data in Table 6.4 show all but 2 of the 27 of these errors had been made by the Poorer readers. It is worth mentioning in this connection that this finding gave strong support to the necessity to distinguish between REFUSAL and OMISSION errors since apart from the finding that the proportion of errors falling into these two categories varied considerably, the frequency of the REFUSAL errors appeared to be related to reading ability.

In summary then, when the pattern of the children's oral reading errors was considered in terms of its possible connection with reading ability, the main finding which emerged was that the Poorer readers had been responsible for almost all of the REFUSAL errors which had occurred and that this type of error accounted for 8.3% of the total errors of this group as compared to corresponding proportional percentages of 2.0% and 0% for the Fair and Better readers respectively. Since the reading text in question was 'self-generated' and thus contained no words which were not part of the children's oral vocabulary it seemed unlikely that the failure to attempt a word stemmed from a lack of comprehension of the linguistic

context which preceded or succeeded the target word, or of the target word itself in its spoken form. It is nevertheless possible that an orally familiar word had no 'print-familiarity' and that the reader whose phonics knowledge was poor might be unable to decipher it and unwilling even to attempt it. If this view is correct it points up the notion, expressed in the views of Biemiller (1970) and of Kibby (1979) that whilst the ability to comprehend a reading passage, the ability to make use of contextual cues, and a reader's general concepts of how language 'works' may be vital, phonic skills are also very important. The findings presented above suggest that this holds true even when a text is designed to give the reader optimum 'accessibility' to its vocabulary.

In the present chapter we have seen that the reading accuracy of the children in relation to their self-generated texts was generally very high and that the pattern of errors which was observed was not markedly different from that observed by previous researchers who have studied younger and more 'average' readers' performance on conventional reading materials. Additionally, the poorest readers in the group have been shown to exhibit a statistically significantly lower reading accuracy rate than the other children and to present an error-profile which included REFUSAL errors. However, these findings were the product of quantitative analyses of the children's oral reading errors. As such they were of minimal interest since they provided very little insight into the actual reading behaviour of the 52 remedial readers. In the next chapter the qualitative nature of the children's REFUSAL, OMISSION and INSERTION ERRORS will be considered, whilst Chapter 8 focuses on the detailed analysis of the SUBSTITUTION errors. The aim of these analyses will be to provide information about the reading strategies employed by the children and

to consider whether or not these strategies appeared to differ according to their real age/ reading age discrepancy scores.

## CHAPTER 7

### THE NATURE OF THE REFUSAL, OMISSION AND INSERTION ERRORS ON THE SELF-TEXT.

Taken together the REFUSAL, OMISSION and INSERTION errors observed during the SELF-text reading sessions accounted for only 26.3% of the total errors recorded. Nevertheless, the present author wished to examine the nature of the errors which fell into these categories rather than focussing solely on the SUBSTITUTION errors as many previous oral reading researchers have done. As the present chapter proceeds each of the REFUSAL, OMISSION and INSERTION categories of error will be considered separately and the information they offer regarding the children's reading strategies discussed.

#### Section 1. REFUSAL errors on the SELF-texts.

As the findings reported in the previous chapter indicated, a total of 27 REFUSAL errors were recorded during the SELF-text reading sessions and these errors accounted for 6.1% of the total number of errors made by the 52 readers. Twenty five of the 27 REFUSAL errors were the responsibility of the readers in the Poorer ability group.

Whilst it is often convenient in a large-scale study to communicate major themes in terms of 'group scores' or 'group means', particularly where a quantitative analysis of data is involved, the present author's sample-size of 52 children, and the small number of REFUSAL errors under consideration, made a more sensitive examination of the REFUSAL error data attractive. An examination of the data along these lines showed that the 25 errors made by the Poorer

readers' group (n 17) stemmed from only 7 of the 17 children, and that 2 of the children, BRIAN and ROSEMARY, were responsible for 18 (72%) of these errors. (The remaining 2 REFUSAL errors were made by just one individual - JASON - in the Fair readers' group).

If any of the points made in the previous chapter regarding phonic skills hold true, it might be expected that the refused words, and/or the readers concerned, had certain characteristics in common. For example, the target words might be multisyllabic, or phonetically irregular, or words which might be uncommon in the children's typical reading material. Additionally it might be expected that the 2 individuals making a high proportion of the REFUSAL errors would have large real age/reading age discrepancy scores. In order to discover whether or not any of these expectations were borne out by the data it was necessary to examine the whole corpus of REFUSAL errors and to consider the discrepancy scores of the children concerned. Table 7.1 presents these data. The percentage figures in the table are included to convey the proportion of REFUSAL errors to all errors for each child.

Table 7.1 Words which provoked REFUSAL errors on the SELF-text.

CHILD	REFUSED WORDS	NUMBER OF REFUSALS	PROPORTION REF. TO CHILD'S TOTAL ERRORS	R-AGE DISCREPANCY (MONTHS)
BRIAN	seventy, eight, actually Brandy, Judy, own, eight, like, liable, liable, practice, cues	12	35.3%	-54
ROSEMARY	another, Rebel, field, Rebel, Geography, first	6	33.3%	-50
IAN	ordinary	1	4.3%	-53
SANDRA	guinea	1	5.8%	-45
DARYLL	under, twelve, usually	3	37.5%	-39
JOANNE	give	1	2.4%	-36
WAYNE	practice	1	16.6%	-47
JASON *	separate, it's	2	14.3%	-24

\* JASON was a member of the Fair readers' group - all the other children were Poorer readers.

As Table 7.1 shows 17 (63%) of the 27 refused words contain 2 or more syllables and 13 (48%) have 6 or more letters. The shorter words, 'field', 'first', 'cues', 'own', could present problems in terms of phonic blending and 'give' and 'like' demand a knowledge of the silent ('magic') 'e'. A surprising feature of the lists of both BRIAN and ROSEMARY was their failure to attempt the words 'Brandy' and 'Judy' (BRIAN), and 'Rebel' (ROSEMARY) - surprising because these were the names of the children's pets. It is tempting to speculate that the initial capital letter caused the problem since the names themselves, and the context in which they were presented, were obviously familiar.



Table 7.1 also suggests that of the 8 children making REFUSAL errors only BRIAN, ROSEMARY and DARYLL could be said to have error-profiles which were characterised by a relatively high frequency of REFUSALS. More than 30% of their errors fell into this category whereas the corresponding mean percentage proportion for all 8 children was 18.6% and for the whole sample of readers (n 52) it was 6.1%.

Considering reading ages it can be seen that both BRIAN and ROSEMARY had very large real age/reading age discrepancy scores. (BRIAN actually had the largest reading age discrepancy score of all the children who took part in the study). Consequently both of these children had a very low reading age - BRIAN'S was 7:4 and ROSEMARY'S 7:2 (Schonell) just prior to reading the texts in question. DARYLL, with his discrepancy score of -39 had a reading age of 8:1.

Do the data in Table 7.1 suggest then that a high incidence of REFUSAL errors were associated with a low reading age? The answer seems to be 'yes' - but only sometimes! IAN'S data adds a caveat.

IAN, it can be seen, had a higher discrepancy score than either ROSEMARY or DARYLL and his reading age was as low as that of ROSEMARY (7:2). Nevertheless, only one of his errors (4.3%) fell into the REFUSAL category. IAN'S data stand as a reminder, if one were needed, that the attempt to build up a definitive picture of oral reading error profiles for a group of readers is a tricky business. Consequently all that can safely be said about the REFUSAL errors observed during the reading of the SELF-texts is that 3 of the 52 children made a relatively high proportion of such errors; that these children had very low reading ages in comparison with the majority of

their peers; that the nature of some of the refused words ('liable', 'cues', 'guinea') was not surprising, but that the nature of the others, ('Brandy', 'Judy', 'Rebel') was.

## Section 2: OMISSION errors on the SELF-text

A total of 51 OMISSION errors were recorded during the SELF-text reading performances - in percentage terms 11.6% of the errors fell into this category. As reported in the previous chapter the Better readers made (proportionally) the most OMISSIONS (19.5% of their total error score) Poorer readers the least (9.3%) and the corresponding figure for the Fair readers was 15.2%. However, a Chi-square calculation performed on the raw data showed no statistically significant variation across the data of the three ability groups. ( $\chi^2 = 5.28$ ; d.f. 2; N.S.).

Whilst few researchers have focussed their attention on the qualitative nature of OMISSION errors, authors such as Goodman (1969) have suggested that the occurrence of this type of error can be taken as an indication that readers are processing text, not in a mechanical 'word by word' fashion but as 'active language users' whose tendency is to omit words which are superfluous to the essential meaning of a text. If this view was to be supported by the OMISSIONS data provided by the remedial readers who participated in the present author's study, then the observed omitted words should be examples of 'miscues' (to use Goodman's term) which did not violate the semantic and syntactic unity of the text - 'good' rather than 'bad' errors. It would also follow, were this shown to be the case, that the OMISSION errors of the remedial readers described here could

be considered as a reading 'strength' rather than a reading 'weakness'.

However, before the OMISSION error data are presented in order to investigate this possibility, it must be acknowledged that since the overall OMISSION error-rate was only 0.25 errors per hundred words (0.10 for the Better readers), any discussion of their significance or importance must be cautious in its claims. Nevertheless, the OMISSION errors did account for 11.6% of the total errors observed and a qualitative analysis of the data was felt to be worthwhile.

It was decided that each of the 51 OMISSION errors could be categorised as either ACCEPTABLE, marginally acceptable or UNACCEPTABLE using the following criteria:

#### **ACCEPTABLE OMISSIONS**

Errors which detracted nothing from the essential meaning of the sentence in which they occurred; neither did they cause any disruption of the syntax.

#### **MARGINALLY ACCEPTABLE OMISSIONS**

Errors which did not seriously detract from the meaning of the sentence but which caused some disruption of the syntax.

## UNACCEPTABLE OMISSIONS

Errors which obscured or changed the meaning of the sentence as well as disrupting its syntax.

When the sentences in which OMISSION errors occurred also contained other errors (e.g. SUBSTITUTION errors) these errors were taken into account in judging the acceptability of the OMISSION errors. (The examples included below will clarify this point.)

Examples of OMISSION errors classified ACCEPTABLE, marginally acceptable and unacceptable are provided below but Table 7.2 provides an initial summary of the findings in terms of Better, Fair and Poorer readers.

Table 7.2 The acceptability of OMISSION errors on the SELF-texts.

		Better (n 19)	Fair ( 16)	Poorer (n 17)	All (n 52)
<u>Omission errors</u>					
ACCEPTABLE	n	3	6	8	17
	%	37.5	40.0	28.6	33.3
marginally ACCEPTABLE	n	2	3	7	12
	%	25.0	20.0	25.0	23.6
UNACCEPTABLE	n	3	6	13	22
	%	37.5	40.0	46.4	43.1
TOTALS	n	8	15	28	51
	%	100.0	100.0	100.0	100.0
PROPORTION OF OMISSIONS TO ALL ERRORS		19.5	15.2	9.3	11.6

Looking first at the overall picture presented by the data in Table 7.2 it can be seen that 33.3% of the OMISSION errors were judged ACCEPTABLE whilst 43.1% were found to be UNACCEPTABLE - a finding which suggests that the majority of the omitted words had a detrimental effect on the semantic/syntactic unity of the text. However, when the data from the ACCEPTABLE and marginally acceptable categories are collapsed it can be seen that just over half the OMISSIONS (56.8%) might be termed 'good' errors.

Taking the reading ability groups as a point of comparison, Table 7.2 indicates that the Poorer readers made the lowest percentage of ACCEPTABLE errors (28.6%) whilst the corresponding figures for the Better and Fair groups were very similar to each other (37.5% and 40.0% respectively). Nevertheless, the collapsing of the ACCEPTABLE and marginally acceptable categories has the effect of rendering the proportional percentage figure for each of the three groups very similar: Better 62.5%, Fair 60.0% and Poorer 53.6%. No statistical test could be applied to the data in Table 7.2 (the expected frequencies being too low to permit Chi-square) but it can be seen that there was a tendency for the Better readers to make the fewest UNACCEPTABLE OMISSION errors (37.5%) and the Poorer readers the most (46.4%). However, an examination of the children's error-profiles revealed that only 24 of the 52 readers had actually made OMISSION errors (4 Better readers, 10 Fair readers and 10 Poorer readers) - a finding which had to be borne in mind when making general inferences about the children's reading strategies in relation to this type of error.

## Examples of 'good' and 'bad' OMISSION errors on the SELF-text

Examples of ACCEPTABLE, marginally acceptable and UNACCEPTABLE OMISSION errors are provided below in order to convey their qualitative nature.

### ACCEPTABLE errors

MARCUS: (Better reader re: 'Citizen Band Radio')

You have to have an SWR meter because if you  
don't <sup>OM</sup> have <sup>OM</sup> that your rig will blow up.

STEVEN: (Fair reader re: 'motorcycle scrambling')

<sup>should OM</sup>  
You ~~have to~~ have scrambling boots, proper  
leather overalls and a full-face helmet and  
gloves.

SANDRA: (Poorer reader re: 'pet hamsters')

Her Mum won't let her keep it at her house so  
she keeps it round at <sup>mine OM</sup> my house.

As the examples show the omitted words disrupted neither the semantics nor the syntax of the sentences in which they occurred. MARCUS's example is interesting in as much as his second OMISSION, 'that' is necessary in order to preserve the syntax of the sentence given that 'have' has already been omitted. The OMISSION errors of STEVEN and SANDRA are similar in that each has the effect of

preserving the syntactic unity of the sentences in which they occur after a SUBSTITUTION error has been made, i.e. STEVEN's 'should' for 'have' and SANDRA's 'mine' for 'my'.

#### MARGINALLY ACCEPTABLE errors

ANITA: (Better reader re: 'horseriding')

In the shows you can do jumping <sup>OM</sup> ~~and~~ if you win you get a rosette.

LEIGH: (Fair reader re: 'lambing time')

You have to be there just in case the lamb is coming <sup>OM</sup> ~~out~~ the wrong way.

JOANNE: (Poorer reader re: 'pets')

We've got two cats, one dog <sup>OM</sup> ~~and~~ four fish.

As the examples show the OMISSION errors which were judged MARGINALLY ACCEPTABLE tended to cause some disruption of the syntax of the sentences in which they occurred but did not obscure or change the intended meaning. For example, ANITA's omitted 'and' had the effect of re-casting the single sentence into two shorter ones - an imaginary fullstop seemingly being placed between the words 'jumping' and 'if'. By contrast LEIGH's error - the omission of the word 'out', was not syntactically disruptive but was judged to be only MARGINALLY ACCEPTABLE since the preservation of the word 'out'

(i.e. 'out of the mother's womb') could be considered to have enhanced the intended meaning. JOANNE's error, the omission of the word 'and' caused no disruption of the meaning of the sentence in which it occurred but had the effect of rendering it rather telegramatic.

### UNACCEPTABLE errors

MICHELLE: (Better reader re: 'pet budgerigar')

He's got a swing that <sup>OM</sup> ~~he~~ jumps up and  
down on.

VERNON: (Fair reader re: 'pig breeding')

The sow feeds them and <sup>OM</sup> ~~when~~ they're about  
three weeks old you give them corn.

CRAIG: (Poorer reader re: 'pets')

Sometimes when Mum gets <sup>OM</sup> ~~no~~ oats in for  
breakfast.

As can be seen from the examples UNACCEPTABLE OMISSION errors had the effect of blurring or obscuring the intended meaning of the sentences concerned. Usually their effect was disruptive both semantically and syntactically although CRAIG's error was included above as an example of an OMISSION error which was UNACCEPTABLE purely on semantic grounds.



As the findings reported above suggest, and as the examples of 'good' and 'bad' errors show, generalisations about the effects of the tendency of some readers to omit words from their self-generated texts are inappropriate. Despite the fact that the reading material could be regarded as highly 'accessible', evidence could be found to refute as well as support the 'good miscue' hypothesis (Goodman 1969) mentioned above. Nevertheless, it seemed clear from the qualitative examination of the 51 OMISSION errors that it would be a mistake to regard this type of error as merely a sign of carelessness or lack of attention to the text on the part of the remedial readers concerned. Given the small number of readers involved (24) it seemed worthwhile to attempt a more thorough investigation of this rather general impression. This was concerned with the question of whether or not the OMISSION errors of any of the individual children concerned were always ACCEPTABLE, always marginally ACCEPTABLE or always UNACCEPTABLE. The actual number of OMISSION errors which could be considered was of course very small (51) but it was felt that other researchers, using larger sample sizes, or perhaps finding a higher incidence of OMISSION errors amongst remedial readers, may be interested in the question of whether or not readers tend to be consistent in the type of OMISSION error they make and whether this may be related to reading ability.

Table 7.3 provides a summary of the findings in relation to this exploratory investigation and (simplifying greatly) shows that the majority of the readers concerned made OMISSION errors which were not consistently 'good' or 'bad'.

Table 7.3 Consistently ACCEPTABLE, marginally ACCEPTABLE AND UNACCEPTABLE OMISSION errors on the SELF-text.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
<u>Category of OMISSION error</u>				
ALL ACCEPTABLE	0	4	1	5
ALL marginally ACCEPTABLE	0	1	1	2
ALL UNACCEPTABLE	2	3	2	7
'MIXED' OMISSION ERRORS	2	2	6	10
TOTAL CHILDREN INVOLVED	4	10	10	24
TOTAL OMISSION ERRORS	8	15	28	51

No statistical test could be applied to the data shown in Table 7.3 but the general impressions can be summarised as follows:

- \* 7 of the 24 readers made OMISSION errors which were consistently ACCEPTABLE or marginally ACCEPTABLE but none of these children were Better readers.
- \* 7 readers made errors which were consistently UNACCEPTABLE and these included children from each of the ability groups;
- \* 10 of the 24 readers made 'mixed' OMISSION errors, i.e. errors which were not consistently 'good' or 'bad'.

Thus this small-scale investigation of the OMISSION error data provided no support for the notion that the OMISSION errors made by the children with the highest measured reading ages (the 4 Better readers) might be consistently 'good' errors. Neither was there any evidence to suggest that the OMISSION errors of the Poorer readers

were consistently 'bad'.

Summing up the findings regarding the qualitative analysis of the OMISSION errors observed by the present author in respect of 24 remedial readers, reading their own self-generated material, it is evident that the tendency to omit words from the text could be regarded as showing signs of both reading strengths and reading weaknesses. Approximately 50% of the total number of errors were judged to be UNACCEPTABLE on the grounds that they seriously disrupted the semantic and/or syntactic unity of the text but there were no clear findings to suggest that the poorest readers in the group were the most likely to show this weakness. Whether this finding was reflected when the children's performances on the (less 'accessible') PEER and CLASS-texts were considered is a question which will be addressed in Chapter 15.

Finally, in this section of the present chapter a caveat must be added in acknowledgement of the uniqueness of reading texts which were based on oral language since the author feels that this may have had a particular bearing on the quantitative and qualitative nature of the OMISSION errors. As explained in the Pilot Study (Appendix A) the fact that the children's texts were transcripts of their speech did not cause serious problems in terms of style and sentence structure. However, as can be detected from some of the examples of OMISSION errors above, sentences could occasionally be less than 'elegant' in syntactic terms.

"You have to have scrambling boots..."

"In the shows you can do jumping..."

Therefore a possibility which has to be acknowledged is that some of the texts might have been more syntactically unweildy than others and that, therefore, some of the OMISSION errors, by some of the readers, may have been a function of the clumsyness of the text rather than of the clumsyness of the reader.

### Section 3: INSERTION errors on the SELF-texts

A total of 38 INSERTION errors were recorded during the children's reading of the SELF-texts and this type of error accounted for 8.6% of the total number of oral reading errors observed. In terms of the three reading ability groups the Better readers made the lowest proportion of INSERTION errors to all errors (4.9%) and the Poorer readers the highest (10%). The corresponding proportional percentage figure for the Fair readers' group was 6%. However, the calculation of the Chi-square indicated that no statistically significant variation existed in the proportions of errors which were and were not INSERTIONS across the ability group raw data. ( $\chi^2 = 2.24$ ; d.f. 2; N.S.).

The actual number of INSERTION errors recorded (38) was obviously very small but some consideration of their qualitative aspects seemed worthwhile in order to discover what they revealed about the reading strategies of the children concerned. There is little information available at present about the function or effect of INSERTION errors although Dodd (1982) studying beginning readers, has suggested that they seem to provide evidence of a reader's attempt to 'embellish' the text. The present author was interested to discover whether or

not the INSERTION errors of the older remedial readers, made in response to their self-generated texts, could be seen to enhance the meaning of the sentences in which they occurred. On the other hand it might be the case that the INSERTION errors were generally disruptive of the syntax and semantics of the sentences concerned and were thus likely to provoke further errors (e.g. SUBSTITUTIONS or REFUSALS). It was also of interest to discover how many of the 52 readers had actually contributed to the total of 38 INSERTION errors (i.e. it might have been the case that the 30 errors recorded during the Poorer readers' performances were all the responsibility of 1 or 2 individuals).

An examination of the 52 reading texts showed that only 17 of the 52 children had actually made INSERTION errors. Of these 2 were Better readers, 4 were Fair readers and the remaining 11 children were members of the Poorer readers' group. Taking this finding at face value it seemed evident that children whose measured reading ages were amongst the lowest in the group of 52 readers were the most likely to make INSERTION errors during an oral reading performance. However, it was the 'quality' rather than the quantity of the INSERTION errors that was the major point of interest.

When the INSERTION error data were examined along qualitative lines it was evident that a classification of the errors in terms of their ACCEPTABILITY or otherwise (see OMISSION errors above) could be achieved very simply and that the marginally acceptable category employed in the qualitative analysis of the OMISSION errors was not necessary. This was due to the finding that 24 of the 38 errors in question (64%) had been made in response to an elision-form such as 'I've' or 'they've' and that in each of these cases the INSERTION

error was a result of the reader having produced the ACCEPTABLE full-form (i.e. 'I have') for the elision-form. This was an interesting finding from which certain inferences about the children's expectations of written as opposed to spoken language could be drawn (see below) but for the moment it can simply be reported that all these errors were considered to be ACCEPTABLE. This left only 14 remaining INSERTION errors to be classified as ACCEPTABLE or otherwise - of these only 2 were found to be UNACCEPTABLE in that they disrupted the syntax and the semantics of the sentences in which they occurred. Moreover both errors were the responsibility of one individual - CRAIG - who was a member of the Poorer readers' group. The 2 UNACCEPTABLE errors made by CRAIG and examples of the ACCEPTABLE INSERTIONS produced by other readers are provided below but the findings reported so far are first summarised in Table 7.4.

Table 7.4 ACCEPTABLE and UNACCEPTABLE INSERTION errors on the SELF-text for each of the ability groups.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
ACCEPTABLE errors	2	6	28	36
UNACCEPTABLE errors	0	0	2	2
TOTALS	2	6	30	38

As mentioned above the majority of the ACCEPTABLE errors were made in response to an elision-form: 24 of the 36 ACCEPTABLE errors were of this type and an examination of the data showed that each of the total of 8 errors produced by the Better and Fair readers involved the children producing the full form (e.g. 'I have') in response to an elision-form (e.g. 'I've'). Putting this finding

more simply the INSERTION errors of the Better and Fair readers were always made in response to an elision-form - only Poorer readers inserted words into the text in response to other forms of vocabulary. Thus all the INSERTION errors recorded which did not occur in response to elision-form words were the responsibility of the Poorer readers, and, as mentioned above, all but 2 of these other-form errors were judged to be ACCEPTABLE. Examples of the children's INSERTION errors are provided below.

Taking the full-form for elision-form errors first, three examples, one each from a Better, Fair and Poorer reader will suffice to illustrate their ACCEPTABILITY as 'good' errors.

#### ACCEPTABLE INSERTION errors (elision-forms)

DAVID: (Better reader re: 'This school')

We <sup>have</sup>  
~~We've~~<sup>^</sup> used a Bunsen burner for heating up  
 oil and water

ROBERT: (Fair reader re 'hobbies')

You put your hands under a rock and if  
<sup>there is</sup>  
~~there's~~<sup>^</sup> a fish there you pull it out.

JOANNE: (Poorer reader re 'pets')

Suky <sup>does not</sup>  
~~doesn't~~<sup>^</sup> like it.

Some discussion of the inferences which may be drawn from the tendency of a reader to produce the full-form (e.g. 'we have') for the elision-form which appears in the text seems appropriate at this point. As mentioned above 24 of the 38 INSERTION errors which were recorded were of this type and 16 of these were the responsibility of children from the Poorer readers' group. A tally showed that the SELF-texts of the Better, Fair and Poorer readers contained roughly equivalent numbers of elision-form words so the tendency for the Poorer readers to produce a higher frequency of this type of INSERTION error was not merely a function of their texts. Although the number of errors and readers concerned was small it did seem possible that the increased tendency of the lower ability children to provide a full-form of the elision-form words illustrated a text x reading ability interaction - one which may be related to the work of Moon (1979a). Though Moon's research did not involve older remedial readers, his research with young children has suggested that elisions may be regarded as one of a number of 'miscue triggers' which stem from textual weaknesses. The suggestion is that the tendency of young readers to read full-form for elision-form may be due to an over-generalisation on the part of the reader which results in the view that all printed language should sound like 'book language' - i.e. formal language where elision-forms would be inappropriate. Bearing in mind that the remedial readers who took part in the present author's study were, in the case of the SELF-text reading performances, engaged in reading texts which had been prepared from their own speech, it is interesting to speculate that the tendency to read, for example, 'I have' or 'they are', were attempts to 'formalise' the texts - i.e. to make them sound like 'proper' written language. However, the elision-form/full-form INSERTION errors seem unlikely to have been a mere function of the texts in



question since, as mentioned above, the texts of the Better and Fair readers contained roughly equivalent numbers of elision-forms but the Poorer readers showed a greater tendency to make this kind of INSERTION error. Given that a reading of 'I have' for 'I've' makes no material difference to the meaning of the text, perhaps such 'miscue- triggers' are of little importance apart from the possible insight they give into how a reader views the similarities and differences which exist between spoken and written language. Goodman and Burke (1978) for example, would certainly subscribe to this view.

Turning to the 14 INSERTION errors which were not made in response to an elision-form, it is important to mention that these stemmed from just 4 of the Poorer readers and that in fact, 1 individual, CRAIG, was responsible for 10 of them. The 4 remaining 'other-form' errors were made by IAN (2), EDWARD (1) and HELEN (1).

Before examining these 'other-form' errors in more detail it is worth mentioning that 2 of the 4 children concerned, CRAIG, and IAN, had very high real age/reading age discrepancy scores, -51 and -53 months respectively. (The mean discrepancy score for the Poorer readers was -42.1 months with a standard deviation of 6.87.) The two boys were also similar in that neither made any elision-form INSERTION errors (see later). EDWARD and HELEN, by contrast, had lower reading age discrepancy scores, -44 and -35 months respectively, and both made elision-form INSERTION errors as well as the other-form INSERTIONS described below.

Taking CRAIG's error score first his INSERTION error profile was notable in that apart from making more INSERTION errors than any other child, he was also responsible for the only 2 errors which were

UNACCEPTABLE in terms of syntax and semantics. Additionally, as mentioned above, none of his INSERTION errors were made in response to an elision-form. Looking first at CRAIG's UNACCEPTABLE INSERTIONS these can be viewed as functioning to 'embellish' the intended meaning of the sentences in which they occurred. Four examples will serve to illustrate this point.

#### CRAIG: (Re: 'Pets') ACCEPTABLE INSERTIONS

"One thing he doesn't like is children running <sup>up</sup> <sup>and</sup> <sup>down</sup>  
when he's in the back."

".....I took him<sup>for</sup>a walk".

"Then we wired it<sup>up</sup>to a switch".

"Sometimes when<sup>my</sup>Mum gets <sup>om</sup>~~no~~ oats in for breakfast...".

As the examples show these INSERTIONS cause no problems in terms of syntax or semantics and serve to enhance rather than obscure the intended meaning of the text. The inserted words (e.g. "up and down") show CRAIG adapting the text according to his expectations of what the sentence could/should communicate about the behaviour of his pet dog. Whatever CRAIG's weaknesses as a reader, and his low reading-age suggested these were considerable, his ACCEPTABLE INSERTION errors showed him to be actively processing the print to the point where its communication of the intended meaning was enhanced.

Turning to CRAIG's UNACCEPTABLE INSERTION errors (2) these are more difficult to fathom and seem to be a result of carelessness or wandering attention rather than an easily identifiable misinterpretation of textual cues.

CRAIG: (Re: 'Hobbies') UNACCEPTABLE INSERTIONS

"You have<sup>it</sup> to have a coil and things like that".

"....we give<sup>a</sup> him special oats".

Since neither the preceding nor succeeding linguistic context of these errors caused any problem the reason for the inserted 'it' and 'a' was something of a mystery although it is perhaps worth noting that both INSERTIONS could be regarded as semantically and syntactically acceptable if the only preceding context was taken into account:

"You have it ...." "...we give a..."

As mentioned above, one other reader, IAN, made no INSERTION errors that were prompted by an elision-form. IAN made only 2 INSERTION errors, both of which were judged ACCEPTABLE given the context in which they occurred. Before quoting the examples it should be explained that IAN's text featured a somewhat detailed description of the formalities of procedure involved in 'pigeon-racing'. The first INSERTION error occurred during an explanation of the fact that a racing pigeon must be fitted with a 'racing band' in addition to the 'ordinary ring' which it always wears.

IAN: (Re: 'Hobbies') ACCEPTABLE INSERTIONS

"After a while they put bands on them.<sup>and</sup>^ They've got  
ordinary rings showing the year".

The second error occurred in a sentence relating to the  
'clocking in' of pigeons at the end of a race.

"Every time you clock one it moves on to show the  
time<sup>then</sup>^."

Both these INSERTIONS were regarded as ACCEPTABLE since they  
caused no disruption of the syntax and/or semantics of the sentence.

Since, unlike the other 15 readers who made INSERTION errors,  
CRAIG and IAN made none in response to elision-forms it seemed  
worthwhile examining their texts to discover how they did tackle  
forms such as 'I've' and 'they're' (i.e. it was still possible that  
elision-forms caused REFUSAL, OMISSION or SUBSTITUTION errors).

An examination of their texts showed: CRAIG's text contained 11  
elision-forms. Of these 5 were read correctly and 6 caused  
SUBSTITUTION errors. Each of these SUBSTITUTIONS caused a disruption  
of the semantics and/or syntax of the text. The examples are merely  
listed below since a detailed examination of SUBSTITUTION errors is  
included in a later chapter.

Table 7.5 CRAIG's UNACCEPTABLE responses to elision-form words.

SELF-TEXT TARGET WORD	CRAIG's SUBSTITUTION
It's	It
doesn't	did
I've	even
Mum's	Mum
can't	can
can't	can

By contrast IAN's text contained 14 elision-forms and each one was read correctly. This suggested that CRAIG, like the other 15 readers making INSERTION errors, experienced difficulty with elision-forms but whilst the other children gave the acceptable full-form, CRAIG's responses were unacceptable. IAN, on the other hand, appeared to experience no difficulty with contracted words.

Two remaining children, EDWARD and HELEN, made INSERTION errors which were not a reponse to elision-forms though unlike CRAIG and IAN both these readers also made full-form INSERTION errors in response to elision-forms. (EDWARD: 5 elision/1 'other', HELEN: 4 elision/1 'other'). Their elision-form INSERTIONS need not be illustrated since they were of the same kind as the examples already given with reference to other children e.g. 'It's' read as 'It is'. The 2 other-form INSERTIONS, 1 each from EDWARD and HELEN, are shown below.

EDWARD (re: 'baby rabbits')

"...after about two weeks the babies <sup>came out</sup> ~~can go~~ <sup>on</sup> everywhere"

HELEN (Re: 'school')

"They had a teacher for French, <sup>and a</sup> ~~the~~ Headmaster who used to teach the top class, Mrs. Wilson who used to teach the middle class and Mrs. Ratcliffe who used to teach the bottom class".

As the examples show both the INSERTION errors followed, and appeared to be the consequence of, an immediately preceding SUBSTITUTION error. Both rendered the text semantically and syntactically acceptable and thus functioned as 'mitigators' of SUBSTITUTION errors which would otherwise have caused problems, i.e. 'came go anywhere' (EDWARD) and 'and Headmaster' (HELEN) would have been the result if suitable INSERTIONS had not been produced at the appropriate point in the text. Whilst any conclusions based on only 2 such INSERTIONS must obviously be tentative it is worth noting that as 'mitigators' of a previous error, they performed a function which was quite different from any of the other INSERTION errors illustrated above.

#### Concluding comments on INSERTION errors: SELF-text

To summarise the nature and apparent function of the INSERTION errors which occurred during the children's reading of their self-generated texts, 4 types of INSERTION errors were identified. Each type performed a different function and/or had a different effect upon the translation of the intended message contained in the text.

elision-form/full-form INSERTIONS (n 24, 64%)

These were by far the most commonly-occurring INSERTIONS and appeared to be the result of some readers' (mainly Poorer readers) attempts to 'formalise' the text - to render it less like speech and more like conventional or 'proper' 'book' language.

enhancing INSERTIONS (n 10, 26%)

The inserted words enhanced the intended meaning of the text and caused no syntactic disruption of the sentences in which they occurred.

mitigating INSERTIONS (n2, 5%)

The inserted words functioned to ameliorate the potentially disruptive effects of an immediately preceding SUBSTITUTION error.

disruptive INSERTIONS (n 2, 5%)

The inserted words were not a consequence of a previously occurring error, added nothing to the intended meaning of the sentence and had the effect of disrupting both the syntax and semantics.

In conclusion, even the most conservative appraisal of the INSERTION errors made by the children during the reading of their self-generated texts would indicate that, by and large, the inserted words illustrated strengths rather than weaknesses. That INSERTIONS represented inaccuracies in reading is undeniable but, apart from the

2 disruptive errors made by one individual, they can be regarded as 'positive miscues' rather than 'negative errors'. As such they illustrate the readers' ability to process their self-generated passages in an active manner bringing to bear upon the texts not only their existing knowledge of the content and meaning of the passages, but also suggesting (by virtue of the 'mitigating' INSERTIONS) an appreciation of the syntactic constraints by which language is ordered.

### Summary

The findings reported in the present chapter have illustrated something of the nature of the REFUSAL, OMISSION and INSERTION errors which occurred during the children's reading of their self-generated texts. Leaving aside the REFUSAL errors we have seen that the errors were by no means always detrimental to the children's oral construction of the meaning of the texts. Rather, they often provided evidence of their ability to read in a predictive manner where their existing linguistic knowledge of grammar, and what would 'make sense' was brought to bear on the task of decoding the print.

However, in attempting to look beyond (or behind) the quantitative data the present chapter has also highlighted the difficulty of making generalisations about the pattern of REFUSAL, OMISSION and INSERTION errors which was observed, and what their qualitative analysis could reveal about the reading behaviour of a group of 52 remedial readers. For example, only 8 of the 52 children actually made REFUSAL errors and a high proportion of these were the responsibility of just 3 readers. The OMISSION and INSERTION errors



which were recorded involved only 24 and 17 readers respectively. Nevertheless, the majority of the readers who made REFUSAL, OMISSION and INSERTION errors were children whose measured reading ages were amongst the lowest of those recorded for the group of 52 readers. How their errors - particularly their 'good guesses' - should be viewed by their teachers is an interesting question and one which highlights the sharp division of views about reading expressed in the work of theorists and researchers. As Donaldson and Reid (1985) have suggested there are those who believe that children must be encouraged to read precisely what is on the page (Eric and Wilce 1980) and others, for example Goodman (1969) and Smith (1971) who would regard many of the OMISSION and INSERTION errors cited above as reading strengths rather than reading weaknesses. What does seem evident from the findings reported above is that generalisations - even generalisations about 1 reader and 1 type of error (CRAIG's propensity to make INSERTION errors for example) are likely to be of limited value in helping teachers to adopt a hard and fast policy in deciding whether or not OMISSION and INSERTION errors should be ignored as an oral reading performance proceeds, or whether they should be actively discouraged. Whether or not the same conclusion will apply when the children's reading performances on the less 'accessible' PEER and CLASS-texts have been considered - or whether REFUSAL, OMISSION and INSERTION errors made on these types of text will be more easily identified as general 'strengths' or 'weaknesses' in the reading behaviour of the 52 children, is a question which must wait until a later chapter (Chapter 15) when all the evidence collected by the present author is 'in'. In the meantime the next chapter focusses on the findings concerning the SUBSTITUTION errors observed on the SELF-text and illustrates how their qualitative analysis revealed information about the children's ability to make

use of the graphic, semantic and syntactic cues when the material to be read was of optimum 'accessability' to each of the 52 readers.

## CHAPTER 8

**THE QUALITATIVE ANALYSIS OF THE SUBSTITUTION ERRORS  
OBSERVED DURING THE CHILDREN'S READING OF THE SELF-TEXTS**

This chapter presents the results of the detailed analysis of the SUBSTITUTION errors which were observed during the children's reading of their self-generated texts. What the findings revealed about the readers' ability to make use of the graphic, semantic and syntactic information offered by reading materials designed to provide optimum 'accessibility' for each of the 52 children is also discussed. The classification schedule used in the analysis of the errors was described in Chapter 5 above. It involved a total of 12 decisions being made about each of the 325 SUBSTITUTION errors which had been observed during the SELF-text reading sessions.

Section 1: NON-WORD errors on the SELF-texts

During the children's oral reading performances it had been noted that 'non-words' were occasionally substituted for target words. This being the case the initial phase of the analysis of the SUBSTITUTION errors was designed to enable the frequency of non-word errors to be calculated and the number of readers involved identified.

Given that in reading the SELF-texts the children were being asked to read language which was part of their own oral (if not written) vocabulary it seemed unlikely that many non-word SUBSTITUTION errors would occur. This in fact turned out to be the case. The analysis of the SUBSTITUTION errors showed that only 5 of the 325

errors which had been recorded fell into the non-word category and that 5 readers had each been responsible for 1 of these errors. 4 of the children concerned were members of the Poorer readers' group - this was not particularly surprising - but the remaining non-word SUBSTITUTION had been produced by a Better reader. These findings are summarised in Table 8.1 below.

Table 8.1 The number of non-word SUBSTITUTION errors and the number of readers responsible in each of the three ability groups: SELF-text

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
number of non-words observed	1	0	4	5
number of readers involved	1	0	4	5

Given that in percentage terms the 5 non-word errors observed during the reading of the SELF-texts accounted for only 1.5% of the total number of SUBSTITUTION errors recorded, it can be seen that such errors did not feature very largely in the error-profiles of the children on this particular type of reading material. However, the non-word data illustrated above is worth bearing in mind in order that a comparison can be made between the frequency of the non-words on the SELF-text and on the (less 'accessible') PEER and CLASS-texts to be described in subsequent chapters. The actual non-words (along with their corresponding target words) are thus listed below:

Table 8.2 Non-words produced during the SELF-text reading performances

	CHILD	NON-WORD	TARGET-WORD
<u>Better readers</u>	LEE	in-joo-red	injured
<u>Fair readers</u>	(No non-words produced by Fair readers)		
<u>Poorer readers</u>	CRAIG	yoats	oats
	MARK	woodbook	woodwork
	SANDRA	nor-merry	normally
	TRACEY	maked	making

As Table 8.2 shows all the non-word SUBSTITUTIONS bore a marked graphic similarity to the target words. Apart perhaps from TRACEY's "maked" (see below) the non-words seemed to be a product of the reader concentrating on graphic cues at the expense of the semantic information offered by their texts. Even so CRAIG's "yoats" was something of a mystery - the word immediately preceding "oats" did not end in 'y' - and MARK's "woodbook" was also surprising in view of the fact that apart from "woodwork" being part of his own spoken vocabulary its written form should have been familiar from the school timetable. TRACEY's substituted "maked" for "making" was obviously of a rather different order and reminiscent of younger children's overgeneralisation of grammatical rules during language acquisition. The two remaining non-words "nor-merry" and "in-joo-red" were also different in that they could, arguably, be re-classified as pronunciation errors. (It is worth noting though that SANDRA's "nor-merry" for "normally" was not due to a speech impediment.) However, it was felt that such a classification would be misleading since they were not obvious mispronunciations such as say, "somethink" for "something", but rather the target word had remained unrecognised by the children concerned. The problem was not one of mere

mispronunciation but rather one of misinterpretation. Perhaps the words 'normally' and 'injured', though each was spontaneously produced in oral language (during the taping for the self-generated texts) were simply unfamiliar in their written form. LEE's laboured attempts to 'sound out' "injured" suggest that the "mechanics" of letter-sound correspondences can be expensive in terms of the attention they detract from semantic cues even though a word is 'known' orally.

In summary the number of non-word errors which were observed during the SELF-text readings was negligible but did go some way to illustrate that semantic cues would occasionally be ignored and that the interpretation of graphic cues would sometimes go completely awry. The greater numbers of non-word SUBSTITUTION errors which occurred on the PEER and CLASS-texts is reported and discussed in Chapters 11 and 14 respectively.

## Section 2: The GENERAL graphic similarity and semantic and syntactic acceptability of SUBSTITUTION errors on the SELF-texts

In this section an overview of the children's use of the graphic, semantic and syntactic information is presented through the findings relating to the 'general' (or gross) graphic similarity and semantic and syntactic acceptability of their SUBSTITUTION errors. In Section 3 the findings relating to the more detailed analysis of the errors in terms of the use of these three types of textual cues will be reported and discussed.

Table 8.3 below provides a crude appraisal of the children's ability to make use of the graphic, semantic and syntactic cues offered by the SELF-texts in as much as the percentage figures

indicate the incidence of SUBSTITUTION errors which showed some evidence of the use of these three types of information. (For example a SUBSTITUTION error which was acceptable at only one of the more detailed levels of analysis included in the classification schedule - say the level of 'preceding context' - is included in the percentage calculation shown below.)

Table 8.3 The Percentages of SUBSTITUTIONS with some element of graphic similarity and semantic and syntactic acceptability: SELF-texts

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
some GRAPHIC SIMILARITY	61.0	66.0	83.0*	77.0
some SEMANTIC ACCEPTABILITY	100.0	100.0	97.0	97.0
some SYNTACTIC ACCEPTABILITY	100.0	100.0	95.0	97.0

\* A Chi-square calculation (raw data) showed the variation in the proportions of graphically similar errors across the three ability groups to be statistically significant:  $\chi^2$  14.15; d.f. 2;  $p < 0.001$ .

Table 8.3 suggests a remarkably high level of the use of all three types of textual information was indicated when the SUBSTITUTION errors were subjected to a crude analysis of their graphic similarity and semantic and syntactic acceptability. Of particular interest was the finding that the errors of the Poorer readers showed the highest percentage score for the graphic similarity of the substituted words to the target words, and the lowest percentages for semantic and syntactic acceptability - a finding not incompatible with the view of researchers who argue that poorer readers make use of graphic cues at the expense of attention paid to the linguistic context (Burke 1976). Nevertheless, as the table shows, it could be argued from the data that the errors of the Poorer readers (at least at this crude level of

analysis) showed a better overall 'balance' of the use of graphic and contextual cues than those of the Better and Fair readers. However, the 'quality' of the SUBSTITUTION errors of the children from the three reading ability groups could only be assessed by considering the findings of the more detailed analysis of the graphic similarity and semantic and syntactic acceptability of the substituted words. These findings are reported in Section 3 below.

### Section 3: The detailed analysis of the use of graphic, semantic and syntactic cues in producing SUBSTITUTION errors on the SELF-texts

#### **1. The use of graphic cues: BEGINNING, MIDDLE and ENDING similarity**

Up to this point the data relating to the graphic similarity of the SUBSTITUTION errors with the corresponding target words have given only a crude idea of the children's attention to the graphic cues during their reading of the self-generated texts, i.e. no distinction has been made between the percentages of SUBSTITUTION errors which were very similar to the target words and those which had only 'beginning', 'middle' or 'ending' letters in common with the words in the text. It is generally agreed that the most salient graphic cues are provided by the initial and final letters of a word (Weber 1970) and the analysis reported below was made in order to discover the extent to which the children's SUBSTITUTION errors suggested these cues were being utilised. A second purpose of the analysis was to investigate the question of whether or not the children differed in the extent of the attention which they appeared to pay to the beginning, middle and ending graphic cues according to whether they were Better, Fair or Poorer readers. Table 8.4 presents the relevant findings.



Table 8.4 The Percentage of SUBSTITUTIONS with BEGINNING, MIDDLE and ENDING graphic similarity to the SELF-text target words

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
BEGINNING similarity	55.0	57.0	70.0	65.0
MIDDLE similarity	27.0	42.0	57.0*	51.0
ENDING similarity	23.0	20.0	22.0	21.0

\* A Chi-square calculation showed a statistically significant variation in the proportions of errors with MIDDLE similarity across the three ability groups:  $\chi^2 = 12.89$ ; d.f. 2;  $p < 0.01$ .

The main finding illustrated by the data in Table 8.4 concerns the pattern of the overall percentages for BEGINNING, MIDDLE and ENDING similarity. This shows a decline in the readers' successful processing of the graphic cues (sequentially) from the initial to the final letters of the target words in question. The relatively high BEGINNING similarity percentages support the findings reported by several researchers (Weber 1968, 1970; Biemiller 1970) that the graphic cues which readers most frequently use in order to decode words are those offered by the first letter. (This behaviour being reinforced by the oft-heard teacher's question 'What does it begin with?' when pupils appear 'stuck'.) However, the research which supports this general finding has typically involved younger and more 'average' readers than the children studied by the present author so it is of interest to note that the SUBSTITUTION errors of the 11 year old remedial readers considered here showed stimulus-response patterns regarding the beginning of words which could be considered as typical of those of normally progressing (but younger) readers.

More interesting though, since it raises questions related to the instruction of remedial readers, was the finding that the children who took part in this study appeared atypical in terms of the responses they made to the middle and final letters of words. Weber (1968) and others have shown the usual pattern of response is that readers "make most errors on letters in the middle of words, fewer on letters at the end of words, and fewest on letters at the beginning of words" (Weber 1968). However, as the data in Table 8.4 show, the readers involved in this study produced far fewer SUBSTITUTION errors with ENDING graphic similarity than with MIDDLE similarity - 51% MIDDLE as opposed to 21% ENDING. Taking this point further and considering the between-ability-group percentages, it is of particular interest to note that the Poorer readers errors showed the highest BEGINNING and MIDDLE similarity percentage scores but that their ENDING similarity percentage figure was very similar to those calculated for the Better and Fair readers. This finding reflected that reported earlier regarding the Poorer readers' tendency to make the highest percentage of SUBSTITUTION errors with some element of graphic similarity but it showed that, despite this, their success at correctly processing the final letters of the target words was no better than that of the children in the other two ability groups.

Generally then, rather than (as Weber (1970) puts it) "exploiting the letters at the beginning and end as salient cues", the SUBSTITUTION errors of the children considered here suggested that the graphic decoding of words was attempted in a sequential fashion commensurate with the letter-order. From the SUBSTITUTION errors of the Poorer readers, and to a lesser extent from those of the Fair readers, it seemed possible that the graphic cues offered by the MIDDLE letters of words were receiving attention at the expense of the

more salient cues offered by word-endings. Finally on this point, it is interesting to speculate that since it is often the MIDDLE letters of a word which require knowledge of 'blending' (e.g. "coat", "town") years of reading difficulty (and remedial instruction?) may have prompted the children in question to focus a large part of their effort and attention on the (perceived) difficulty of MIDDLE letters. The result might be that the more salient cues at the ends of words would be only scantily regarded. This possibility cannot be properly supported or refuted by the present study but it could be the focus of attention for further research designed to investigate remedial readers' preferred, but not very successful, decoding strategies.

Before turning away from points relating to the low percentage of SUBSTITUTIONS with graphically similar endings to those of the corresponding target words it seems appropriate to illustrate how deleterious the apparent disregard for such graphic cues could be in terms of reading accuracy. Examples from the reading performance of two children, TRACEY and EDWARD will serve to indicate the degree of the problem.

### TRACEY

TRACEY was a Poorer reader and a full-time member of the Remedial Department. Her chronological age was 11:5 and her reading age (Schonell) 8:2. She thus had a reading age discrepancy score of -39 months. Despite this she had a low total error per hundred words score, 2.2 compared to her Poorer group peers (mean ephw 5.14). TRACEY made only 7 SUBSTITUTION errors but whilst every error had 'beginning' and 'middle' graphic similarity with the target word not one of the errors had a graphically similar ending. The target words

and TRACEY's SUBSTITUTION errors are presented in Table 8.5 along with those of EDWARD who is then described below.

Table 8.5 SUBSTITUTIONS with 'beginning' and 'middle' graphic similarity but no 'ending' similarity

READER	TARGET WORD	SUBSTITUTION
TRACEY	making	'maked'
	everything	'every time'
	learned	'learnt'
	held	'helps'
	made	'makes'
	work's	'work'
EDWARD	cookery	'cooking'
	twenty	'twelve'
	look	'looks'
	eats	'eating'
	can	'came'
	bites	'bit'
	kept	'keep'
	doesn't	'does'

#### EDWARD

EDWARD, like TRACEY, was a Poorer reader and a full-time member of the school's Remedial Department. His chronological age was 11.7 years and his reading age as measured by Schonell was 8:1. This meant his reading age discrepancy was -44 months. EDWARD had one of the highest total error per hundred words scores of all readers: 7.6 as opposed to the Poorer group mean ephw score of 5.14. He made a total of 26 SUBSTITUTION errors. Of these 85% had 'beginning' graphic similarity, 68% had 'middle' graphic similarity and 23% had graphically similar 'endings'. (Table 8.5 above shows the 7 SUBSTITUTIONS which had 'beginning' and 'middle' but no 'ending' similarity.)

It is perhaps not surprising that TRACEY and EDWARD with their low reading ages should experience some difficulty in reading their self-generated texts. However, if the target words in Table 8.5 are examined it can be seen that none of the word endings could be described as presenting difficult problems and it seems unlikely that the readers' failure to decode them successfully was a simple case of them not having the phonics knowledge which would have enabled them to do so. In other words it was not that they could not make use of what Weber (1970) describes as the 'salient cues' at the ends of words but rather that they did not.

It goes without saying that the reading difficulties of TRACEY and EDWARD were not simply a function of their failure to decode the graphic endings of words. Reading problems, bound up as they are with semantic knowledge, with comprehension, with attitudes towards reading, with the attitudes of teachers and parents and with a myriad of other inter-related variables, are unlikely to be the result of one type of difficulty. Nevertheless, it seemed possible that if the remedial readers who took part in the present study could have been alerted to their tendency to disregard the endings of words their reading accuracy might have been considerably improved.

**2. The use of semantic cues: the WITHIN PASSAGE and WITHIN SENTENCE acceptability of the SUBSTITUTION errors on the SELF-texts and the use of the PRECEDING and SUCCEEDING linguistic context**

It was reported earlier that the percentage of SUBSTITUTION errors which had some degree of semantic acceptability was extremely high: 97% overall. In fact all the SUBSTITUTIONS of the Better and Fair readers were semantically acceptable at at least one of the four levels of analysis (within passage, within sentence, with preceding or

succeeding context) and the corresponding figure for the Poorer readers was also remarkably high at 95%. However, the unwieldy 'lumping together' of these four levels of semantic acceptability could obviously give only a crude idea of the children's ability to make use of this type of information so each level of acceptability will be considered in detail below. Questions which could be investigated by such an analysis related to whether or not, for example, SUBSTITUTIONS which were acceptable at the levels of the PRECEDING and SUCCEEDING linguistic context were also acceptable at the WITHIN SENTENCE and WITHIN PASSAGE levels.

Table 8.6 presents a summary of the findings concerning the semantic acceptability of the SUBSTITUTION errors at each of the 4 levels of analysis referred to above.

Table 8.6 The percentages of SUBSTITUTIONS semantically acceptable at the WITHIN PASSAGE, WITHIN SENTENCE, PRECEDING and SUCCEEDING levels of analysis: SELF-texts

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
within PASSAGE	55.0	67.0	62.0	63.0
within SENTENCE	87.0	75.0	71.0	74.0
with PRECEDING context	96.0	98.0	94.0	95.0
with SUCCEEDING context	100.0	87.0	87.0	88.0

A series of Chi-square calculations, carried out on the raw data from which the proportional percentage figures shown in Table 8.6 were calculated, showed that no statistically significant variations existed across the ability group data at any of the 4 levels of analysis.

### Semantic acceptability WITHIN PASSAGE and WITHIN SENTENCE: SELF-texts

Looking at the overall picture of the semantic acceptability of the children's SUBSTITUTION errors, and taking first of all the WITHIN PASSAGE level, it is interesting to note that only 63% of the errors fulfilled the acceptability criteria at this all-important level. In other words 36% of the SUBSTITUTIONS, although they might be acceptable at some other (less important) level failed in terms of the translation of the essential overall meaning of the text. Given that the children were each reading their own self-generated texts and that these provided what might be called 'maximum background knowledge' and 'maximum meaningfulness' the finding that only 64% of the SUBSTITUTION errors were acceptable in a truly functional way is important. (In 'real terms' a substituted word which is not acceptable at the WITHIN PASSAGE level is not acceptable at all since it will obscure or detract from the essential message intended by the text.) Looking across the ability groups at the WITHIN PASSAGE level reveals no dramatic differences between the mean percentage figures of Better, Fair and Poorer readers and this is not entirely surprising when one considers that the SELF-texts were used in an attempt to hold constant the variables of background knowledge and comprehensibility for each reader. In summary then the WITHIN PASSAGE level of analysis of the acceptability of the children's SUBSTITUTION errors showed very clearly that the 52 remedial readers were capable of bringing their 'inside knowledge' of the meaning of the passage to bear on their oral reading performances - but not consistently. The findings also indicated that the children were by no means always cognizant of the necessity for a substituted word to preserve and contribute to the overall intended meaning of the text - even when the text in question was a product of their own vocabulary and experience. This tendency

of the readers to construct 'alternative meanings' during the reading of self-generated passages could thus be viewed as a specific weakness in their ability to make use of contextual information. As subsequent chapters will show it was a weakness which was amplified when they were presented with the less 'accessible' PEER and CLASS-text materials (See Chapter 15 for a comparison and discussion of the relevant data.)

As Table 8.6 shows the semantic acceptability of the children's SUBSTITUTION errors increased by some 10% when they were considered at the WITHIN SENTENCE as opposed to the WITHIN PASSAGE level - a finding which suggested that the children were more aware of the semantic constraints operating within sentences, and more successful in negotiating them. Nevertheless, given the nature of the reading material, the finding that 26% of the children's substituted words were unacceptable in terms of preserving the meaning of the sentences in which they occurred could be taken as further evidence of a specific area of weakness in what, from the general semantic acceptability figures produced in Table 8.3, appeared to be a remarkably well-developed ability to make successful use of the semantic information provided by the self-generated texts.

Examples of SUBSTITUTION errors which were acceptable at the WITHIN SENTENCE but not at WITHIN PASSAGE level are provided below:

JOANNE (Better reader re: 'pets')

She was black with <sup>big</sup>~~beige~~ stripes but now's she's  
all black.



JONATHAN (Fair reader re: 'hobbies')

You pay your money and you sit in a <sup>back</sup>~~big~~ room and have  
a drink.

EDWARD (Poorer reader re: 'hobbies')

I've got stamps from <sup>twelve</sup>~~twenty~~ different countries.

Semantic acceptability with PRECEDING and SUCCEEDING context:  
SELF-texts

The percentages of acceptable SUBSTITUTION errors at the levels of the PRECEDING and SUCCEEDING linguistic context were very high as indicated by Table 8.6 - a finding which provided very good evidence of the children's ability to make use of the contextual cues which were in close proximity to the target words in question. It was of interest to note then that the high 'general' semantic acceptability percentages reported earlier in Table 8.3 were largely a function of the children's ability to make successful use of the PRECEDING and SUCCEEDING linguistic context of the target words. The examples provided above (with reference to WITHIN SENTENCE acceptability) will also serve to show the acceptability of the SUBSTITUTION errors in question at the levels of PRECEDING and SUCCEEDING context. Examples of substituted words which were acceptable at only one of these levels are provided below.

acceptable with PRECEDING context only

IAN (Poorer reader re: 'pigeons')

They're <sup>easily</sup>easy to look after but you have to know what kind they are.

acceptable with SUCCEEDING context only

BRIAN (Poorer reader re: 'football')

You have to be a good runner <sup>fast</sup>~~first~~ and get a lot of practice...

Summing up the findings regarding the semantic acceptability of the children's SUBSTITUTION errors on the SELF-text it can be seen from the data reported above that there was ample evidence that the 52 remedial readers were able to make use of the semantic cues provided by the reading passages. However, the degree to which the use of such information could be regarded as successful depended very heavily upon whether the total context (the PASSAGE level) was the focus of the analysis or whether the more immediate context (the PRECEDING and/or SUCCEEDING) was considered. A second finding related to the comparison of the Better, Fair and Poorer readers amongst the group of 52 children. As the data show there were no dramatic differences in the acceptability (or otherwise) of the SUBSTITUTION errors at any of the 4 levels of analysis.

A comparison of the findings reported above with the work of previous oral reading error researchers is difficult since previous

studies have usually focussed on the semantic acceptability of errors made by younger more 'average' readers reading 'conventional' materials. However, it is probably worth mentioning that the information which is available suggests that readers produce a higher percentage of semantically acceptable errors at the SENTENCE level than at the PASSAGE level (Weber 1970) and that Potter (1982) has shown that readers make most effective use of the PRECEDING rather than the SUCCEEDING context. Both of these findings are reflected in the SELF-text data reported above.

**3. The use of syntactic cues: the WITHIN PASSAGE/SENTENCE acceptability of the SUBSTITUTION errors on the SELF-texts and their acceptability with PRECEDING and SUCCEEDING context**

The percentage of the SUBSTITUTION errors which had some element of syntactic acceptability was very high: 97% overall (see Table 8.3 above). In fact all the substituted words of the Better and Fair readers were syntactically acceptable at at least one of the three more detailed levels of analysis which was to be considered, and the corresponding percentage for the Poorer group readers was also remarkably high (95%). The initial 'crude' analysis of the syntactic acceptability of the children's errors thus produced percentage data which were very similar to those reported for semantic acceptability and reflected the common finding in oral reading error research that semantic and syntactic acceptability levels are very closely associated, although syntactic acceptability tends to be slightly higher (Burke, 1969; Goodman, 1976).

Table 8.7 below presents the findings of the more detailed analysis of the syntactic acceptability of the children's errors in

order that the findings may be compared with the corresponding analysis of the semantic acceptability of the SUBSTITUTION errors reported in Table 8.6 above.

Table 8.7 The percentage of SUBSTITUTIONS syntactically acceptable at the WITHIN PASSAGE/SENTENCE, PRECEDING and SUCCEEDING levels of analysis: SELF-texts

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
within PASSAGE/SENTENCE	84.0	71.0	72.0	73.0
with PRECEDING context	96.0	98.0	94.0	95.0
with SUCCEEDING context	100.0	86.0	82.0*	85.0

\* A Chi-square calculation (raw data) showed the variations in the proportions of significantly acceptable errors at the 'SUCCEEDING context' level of analysis to be statistically significant:  
 $\chi^2 = 6.43$ ; d.f. 2;  $p < 0.05$ .

As the data in Table 8.7 indicate the overall percentage values showed the children's SUBSTITUTION errors to be least syntactically acceptable at the PASSAGE/SENTENCE level of analysis (73%) and most syntactically acceptable when only the PRECEDING context was taken into account (95%). The corresponding figure for SUCCEEDING context acceptability fell in between at 85%. The overall pattern of syntactic acceptability thus reflected the pattern reported above concerning semantic acceptability (PASSAGE level least acceptable/PRECEDING level most acceptable) and a comparison of the actual percentage figures showed only very slight differences.

Taking the ability groups as a point of comparison, Table 8.7 shows that whilst no dramatic differences were apparent in the syntactic acceptability percentages of the Better, Fair and Poorer

readers there was a tendency for the Better readers to make the most effective use of syntactic cues at the PASSAGE/SENTENCE level, and particularly at the level of SUCCEEDING context, whilst the Fair and Poorer readers were very similar in all respects. However, in general terms there were two main findings apparent from the analysis of the syntactic acceptability of the children's SUBSTITUTION errors on the SELF-text. First of all it could be seen that ample evidence existed that the readers were able to make use of syntactic cues during an oral reading performance. Secondly the errors recorded were very similar in terms of their syntactic and semantic acceptability.

#### Section 4: SINGLE-SOURCE and COMBINED-SOURCE errors on the SELF-texts

The final stage of the analysis of the SUBSTITUTION errors was concerned with an investigation into which sources of textual information seemed to have been employed in producing the errors, i.e. Did the majority of the errors suggest the combined use of graphic and contextual cues? Were there errors which suggested that the reader had made use of only the graphic or only the contextual information? (No distinction was made between semantics and syntax at this stage of the analysis.) More importantly, was the incidence of SINGLE-SOURCE and COMBINED-SOURCE errors related to the reading ages of the children? For example, if proficient reading is concerned with the successful synthesis of the graphic and contextual cues provided by the text it might be expected that the Better readers would produce the highest percentage of COMBINED-SOURCE errors - errors which indicated the synthesis of the graphic and contextual cues provided by the text. Such a finding would be in accordance with the evidence of Biemiller (1970) and of Murray and Maliphant (1982) who have shown an increase

in reading ability to be associated with an increase in the ability to make concurrent use of both graphic and contextual cues.

Table 8.8 presents the data concerning the incidence of SINGLE-SOURCE and COMBINED-SOURCE errors for the Better, Fair and Poorer reading ability groups.

Table 8.8 The percentages of COMBINED-SOURCE and SINGLE-SOURCE SUBSTITUTION errors for each of the reading ability groups: SELF-text

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
COMBINED-SOURCE errors	64.0	59.0	83.0*	76.0
SINGLE-SOURCE errors	36.0	41.0	17.0	24.0
TOTALS	100.0	100.0	100.0	100.0

\* Chi-square = 19.70; d.f. 2;  $p < 0.001$

The first point to be made about the data illustrated by Table 8.8 is that they show very clearly that the majority of the children's SUBSTITUTION errors indicated the concurrent use of the graphic and semantic cues provided by the text. 76% of the total number of SUBSTITUTION errors had some graphic similarity (to the target word) and some contextual acceptability whereas only 24% appeared to have stemmed from the sole use of graphic, or the sole use of contextual cues. There was thus good evidence to suggest that the remedial readers, as a group, were capable of the synthesis of textual cues and were not 'fixated' on one type of information. However, Table 8.8 indicates no support for the argument that an increase in COMBINED-SOURCE errors was associated with an increase in reading ability. On the contrary it can be seen that the Poorer readers

actually produced the highest percentage of COMBINED-SOURCE errors (83%) and the lowest percentage of SINGLE-SOURCE errors (17%). A Chi-square calculation (raw data) showed the variation in the proportions of COMBINED-SOURCE and SINGLE-SOURCE errors across the three ability groups to be statistically significant as reported above. No explanation of this somewhat unexpected finding will be offered for the present since it seems advisable to set aside any discussion until the corresponding analysis of the PEER-text and CLASS-text data has been reported (see Chapter 14). What can be concluded, however, is that at this stage of the investigation of the children's use of the graphic and contextual information, there was no evidence to suggest that the children with the highest measured reading ages were the most proficient at the synthesis of textual cues.

As Table 8.8 shows only 24% of the SUBSTITUTION errors appeared to have stemmed from the sole use of graphic, or the sole use of contextual information. It would thus be inappropriate to describe the children as being 'fixated' on one type of textual information at the expense of ignoring other types of cues. Nevertheless, it was of interest to make a closer examination of the SINGLE-SOURCE error data in order to discover whether the majority of the errors in this category showed that the readers had focussed on the graphic as opposed to the contextual cues provided by the text (or vice versa). Table 8.9 below provides the relevant data.

Table 8.9 SINGLE-SOURCE SUBSTITUTION errors on the SELF-text:  
percentages of 'graphic' and 'contextual' errors

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
GRAPHIC errors	0.0	0.0	11.0	5.0
CONTEXTUAL errors	100.0	100.0	89.0	95.0
TOTALS	100.0	100.0	100.0	100.0

Table 8.9 shows the very clear-cut finding that the vast majority of the SINGLE-SOURCE errors were contextually rather than graphically constrained and that the small percentage of 'graphic' errors which did occur were the responsibility of readers in the Poorer ability group. Examples of COMBINED SOURCE and SINGLE-SOURCE errors are provided below.

Combined-source SUBSTITUTION errors: SELF-text

CLAIRE (Poorer reader re: 'Pets')

Mum <sup>brought</sup> ~~bought~~ two - one for Lassie and one for Judy

Single-source error (GRAPHIC): SELF-text

SANDRA (Poorer reader re: 'Pets')

Their eyes are open <sup>strange</sup> ~~straight~~ away....



### Single-source error (CONTEXTUAL): SELF-text

CRAIG (Poorer reader re: 'This school')

At our old school we used to do everything in one <sup>class</sup>~~room~~.

### Section 5: A summary of the findings of the analysis of the SUBSTITUTION errors: which occurred on the SELF-texts

The main findings relating to each stage of the SUBSTITUTION error analysis are summarised below.

#### **NON-WORDS on the SELF-texts**

Less than 2% of the SUBSTITUTION errors were 'non-words' - in fact only 5 SUBSTITUTIONS, involving 5 readers fell into this category. An examination of these non-word errors showed each one to have a marked graphic similarity with the target word in question. This suggested that in producing the non-word errors the readers were concentrating on graphic cues and either disregarding, or rejecting as unhelpful, the contextual information surrounding the target words. The finding that readers produce a very low percentage of non-words is common in the oral reading research literature and so, in this respect the remedial readers studied were not atypical of younger 'average' readers.

## Use of GRAPHIC CUES on the SELF-texts

Taken as a whole group, 77% of the readers' SUBSTITUTION errors had some element of graphic similarity to the target words in question. When ability groups were compared it was found that a trend was apparent in the percentage data with Better readers making the fewest graphically similar errors (61%) whilst Fair readers made slightly more (66%) and Poorer readers the most (83%). A more detailed examination of the graphically similar SUBSTITUTION errors considered the 'beginning', 'middle' and 'ending' similarity of the SUBSTITUTIONS to the target words and 'beginning' similarity was found to be the most frequently occurring. This finding was in accordance with general evidence from oral reading error researchers showing that readers pay most attention to the initial letter of a word in attempting to identify it. However, the remedial readers who took part in the present study differed from younger average readers studied by such researchers as Weber (1968) in terms of the graphic similarity of the final letters of the substituted words and the target words. The children appeared to pay less attention to the 'ending' than to the 'middle' letters of words whilst the reverse of this was the case in typical oral reading error research. It was suggested that this apparent lack of attention to the final letters of a word would have a particularly deleterious effect on reading accuracy since it is a commonly held view that after the initial letter final letter in a word contains the most salient graphic information. Examples from the error profiles of two readers were offered in support of the suggestion that it seemed unlikely that the readers could not decode the graphic cues offered by the ending of the target words - rather it was that they did not. It was suggested that if the readers and their teachers had an awareness of this tendency,

reading accuracy might be improved by remedial instruction.

### Use of SEMANTIC CUES on the SELF-texts

The general level of the semantic acceptability of the SUBSTITUTION errors was extremely high with 100% of the errors of the Better and Fair readers having some degree of semantic acceptability whilst the corresponding figure for the Poorer readers was still very high at 97%. A more detailed analysis of semantic acceptability at four different levels showed SUBSTITUTION errors were least acceptable when considered at the 'within passage' level. No clear reading ability differences existed at this level. The 'within sentence' level findings suggested the better the readers the higher the percentage of semantically acceptable errors, although no statistically significant results were produced by a Chi-square analysis of the data. Little difference existed between reading ability groups when semantic acceptability was considered only in terms of 'with preceding context'. Generally speaking readers made better use of semantic cues at the 'preceding' than the 'succeeding' context level and this is a common finding in the literature although the Better readers' SUBSTITUTION errors were a slight exception in this respect showing 100% similarity 'with succeeding context' as opposed to 93% with 'preceding context'. It was suggested that the very high levels of semantic acceptability might, in part, be a function of the self-generated texts since such material maximised each reader's background knowledge and prior understanding of the text. A comparison of the semantic acceptability percentages on the PEER-texts and the CLASS-texts will subsequently reveal whether or not this was the case.

## Use of SYNTACTIC CUES on the SELF-texts

The percentages relating to the syntactic acceptability of the SUBSTITUTION errors were very high, reflecting the semantic acceptability findings. There were no marked differences between the reading ability groups with the exception that (as with semantic acceptability) Better readers made the highest possible level of syntactically acceptable errors at the 'with succeeding context' level. It was evident from the data that the 52 remedial readers were able, at least on self-generated texts, to make very good use of syntactic information.

## SINGLE and COMBINED-SOURCE errors on the SELF-texts

A calculation of the percentage of COMBINED-SOURCE as opposed to SINGLE-SOURCE errors showed a clear indication that COMBINED-SOURCE errors had predominated overall (76% COMBINED-SOURCE as opposed to 24% SINGLE-SOURCE). This indicated that the majority of the SUBSTITUTION errors were not a product of the use of 'just graphic' or 'just contextual' information but represented the children's attempts to synthesise these complementary cues. However, when the data were considered in terms of ability groups it became evident that differences between the Better, Fair and Poorer readers were apparent and it was surprising to discover that the Poorer readers had been considerably less likely than the other two groups to make SINGLE-SOURCE errors. Taken at face value this finding ran counter to the generally accepted view that the better the reader the more likely are his errors to show attempts to synthesise the graphic and contextual cues provided by a text. At this stage of the Results section no explanation of this finding was attempted since it was felt

that the corresponding PEER-text and CLASS-text data must first be considered. (See Chapter 14 for a comparison and discussion of the data from all three types of text.)

When the single-source errors were examined in more detail it could be seen that only 5% of these were graphically constrained as opposed to the 95% which indicated the use of contextual cues. However, all the errors which suggested the sole use of graphic cues had been made by the Poorer readers. This finding at least was consistent with the general evidence from oral reading error research that the higher the reading ability the lower the tendency for graphic cues to override the contextual information provided by the reading material.

### Generally

The detailed analysis of the SUBSTITUTION errors showed, that on self-generated texts at least, the group of remedial readers was able to make good attempts to use the graphic, semantic and syntactic sources of information offered by the text.

Apart from a seeming reluctance to attend to the salient graphic cues provided by the final letters of the target words the analysis of the SUBSTITUTION errors suggested that the strategies being used were not markedly different from those used by younger but more 'average' readers described in oral reading research literature.

Whether the ability to produce a high percentage of graphically similar SUBSTITUTION errors, and even higher percentages of semantically and syntactically acceptable errors depended on the

nature of the reading material (i.e. the optimum 'accessibility' of the self-generated texts) can only be debated when the analysis of the errors on the PEER and CLASS-texts has been reported in subsequent chapters. The findings from each of the three texts in respect of the SUBSTITUTION error analyses will be summarised and compared in Chapter 15.

## Section B: The PEER-texts

## CHAPTER 9

## READING ACCURACY AND PATTERNS OF ERROR ON THE PEER-TEXT

This chapter reports the number of errors recorded during the children's reading of the PEER-texts. The reading of these texts took place in March of the academic year and the procedure for recording and categorising the oral reading errors was exactly the same as that used in respect of the SELF-text readings. Subsequent chapters will describe the nature of the children's REFUSAL, OMISSION and INSERTION errors on the PEER-text (Chapter 10) and the qualitative analysis of their SUBSTITUTION errors (Chapter 11).

The number of errors observed on the PEER-text

The total number of words attempted by the children during the presentation of the PEER-texts was 18514 and the total number of errors recorded 483. Since text lengths varied slightly from reader to reader the raw error data were converted into error per hundred words scores (ephw scores) and the mean ephw computed for each of the three ability groups. Table 9.1 illustrates the findings.

A one-way analysis of variance test (ephw x ability) showed a statistically significant difference existed in the ephw scores (overall). ( $F = 9.33$ ; d.f. 2, 49;  $p < 0.001$ .) However, subsequent Scheffé tests showed the statistically significant difference to be a



Table 9.1 PEER-text: Mean error per hundred words score for each of the three ability groups

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
PEER-text: errors per hundred words	$\bar{X}$	1.25	2.26	5.19	2.85
	s.d.	1.1	0.9	4.6	3.2

function of the comparison of the Poorer readers' scores with those of the Better and Fair readers, i.e. there was no statistically significant difference between the ephw scores of the Better and Fair readers. Table 9.2 summarises the results of the Scheffé tests.

Table 9.2 Results of the post hoc Scheffé tests: mean error per hundred words on the PEER-texts

Comparison of ability groups	F value	d.f.	significance
Better (n19) vs Fair (n16)	0.58	2,49	N.S.
Better (n19) vs Poorer (n17)	9.88	2,49	p < 0.001
Fair (n16) vs Poorer (n17)	4.95	2,49	p < 0.02

The conclusion which could be drawn from the statistical analysis of the children's mean ephw scores was thus that the Poorer readers had made significantly more errors than either the Better or the Fair group readers but that the error scores of the two higher ability groups did not differ in statistical terms.

#### Patterns of error on the PEER-text

Table 9.3 shows the distribution of the children's errors across the REFUSAL, OMISSION, INSERTION and SUBSTITUTION categories (raw scores).

Table 9.3 The distribution of errors on the PEER-text (raw data)

	REF.	OMIS.	INS.	SUBS.	ALL
Number of errors	26	44	12	401	483

As Table 9.3 shows by far the highest proportion of the errors fell into the SUBSTITUTIONS category (83%). When the raw data were converted into proportional percentage scores the following patterns of error were observed in respect of the three ability groups (Table 9.4 below).

Table 9.4 The proportion of errors falling into the REFUSAL, OMISSION, INSERTION and SUBSTITUTION categories for each of the three ability groups: PEER text

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
REFUSALS	%	0.0	1.4	9.0	5.4
	n	0	2	24	26
OMISSIONS	%	13.9	10.2	7.2	9.1
	n	11	14	19	44
INSERTIONS	%	3.8	2.1	2.3	2.5
	n	3	3	6	12
SUBSTITUTIONS	%	82.3	86.3	81.5	83.0
	n	65	120	216	401
TOTAL	%	100.0	100.0	100.0	100.0
	n	79	139	265	483

Although it is not the purpose of the present chapter to compare error patterns observed on the SELF and PEER-texts, Table 9.3 above shows the error pattern observed to be very similar to that already reported in respect of the SELF-texts. By far the highest proportion of the errors fell into the SUBSTITUTIONS category (83%) whilst of the three remaining types of error, OMISSION errors accounted for the largest category (9.1%). REFUSAL and INSERTION errors taken together

accounted for only 7.9% of all errors.

#### Patterns of error and reading ability: PEER-text

When the patterns of error observed on the PEER-text were considered in terms of reading ability the finding of most interest was that which related to the REFUSAL errors. As Table 9.4 shows almost all the REFUSAL errors which were recorded were the responsibility of the children in the Poorer readers' group - a finding which was again compatible with the patterns of error reported in respect of the SELF-texts. A second, but less clear-cut feature of the data with respect to reading ability and patterns of error was the finding that the Better readers made the highest (proportional) percentage of OMISSION errors to all errors and the Poorer readers the lowest. Patterns of INSERTION and SUBSTITUTION errors were very similar for each of the three groups. A series of Chi-square calculations (raw data) showed the only statistically significant variation in the proportional error data across the three ability groups was in respect of the REFUSAL errors. The results of the Chi-square calculations are summarised in Table 9.5 below.

Table 9.5 Patterns of error and reading ability: results of Chi-square tests PEER-text

Category of error	Chi-square value	d.f.	significance
REFUSALS	15.76	2	$p < 0.001$
OMISSIONS	3.57	2	N.S.
INSERTIONS	No test possible		-
SUBSTITUTIONS	1.54	2	N.S.

In summary the present chapter has shown that the reading accuracy rate of the children during the reading of the PEER-texts was generally very high - only 2.85 errors per hundred words were recorded - and that the pattern of errors observed was very similar to that reported in respect of their SELF-text performances. The error profiles of the Poorer readers were characterised by a higher mean ephw score (5.19 as opposed to 1.25 and 2.26 for the Better and Fair readers respectively) and by a higher proportion of errors which fell into the REFUSALS category (9% as opposed to 0% for the Better readers and 1.4% for the Fair readers). Again these findings were very similar to those reported in connection with the SELF-text error data. However, a more detailed comparison of the reading accuracy and error patterns on the SELF and PEER-texts is delayed until Chapter 15 where the corresponding CLASS-text data can also be discussed. Meanwhile the following chapter considers the qualitative nature of the REFUSAL, OMISSION and INSERTION errors which were observed during the PEER-text readings whilst Chapter 11 presents the findings concerning the detailed analysis of the SUBSTITUTION errors which occurred on this text.

## CHAPTER 10

### THE NATURE OF THE REFUSAL, OMISSION AND INSERTION ERRORS ON THE PEER-TEXTS.

In providing examples, and considering the 'quality' of the children's REFUSAL, OMISSION and INSERTION errors on the PEER-texts the present chapter is the equivalent of Chapter 7 above which presented the corresponding information for the SELF-text errors.

#### Section 1. REFUSAL errors on the PEER-texts

As reported in the previous chapter only 26 REFUSAL errors occurred during the PEER-text reading performances and these accounted for 5.4% of the total number of errors observed. However, there was a very clear-cut difference with respect to reading ability and REFUSAL errors. None of the Better readers' errors were REFUSALS and only 1.4% of the errors of the Fair readers fell into this category. By contrast the corresponding proportional percentage for the Poorer readers was 9%.

When the REFUSAL error data were examined more closely it was evident that 11 children had been responsible for the 26 REFUSAL errors and that of these 9 were Poorer readers. The remaining 2 children were members of the Fair readers' group. A further examination of the data showed that 2 individuals, BRIAN and ROSEMARY (both Poorer readers) had been responsible for 15 (57%) of the 26 REFUSAL errors and it is probably worth mentioning at this point that the same two children had been responsible for the majority of REFUSAL errors (72%) which had occurred on the SELF-text.

Table 10.1 presents the whole corpus of refused words from the PEER-texts and includes the data concerning real age/reading age discrepancy scores obtained earlier in the study as well as the proportion of REFUSAL errors to all errors for each child.

Table 10.1 Words which provoked REFUSAL errors on the PEER-texts.

	REFUSED WORDS	NUMBER OF REFUSALS	PROPORTION REF. TO CHILD'S TOTAL ERRORS	R-AGE DISCREPANCY (MONTHS)
BRIAN	microscopes, worried, flat, changed, Adam, rather, cassettes, coconut	8	32%	-54
ROSEMARY	budgie, Trudy, once, cage, trying, special, kind	7	17%	-50
CRAIG	trials, tyre	2	7%	-55
JASON	fossils, urchin	2	11%	-41
DARYLL	Zion	1	11%	-40
MARK	league	1	20%	-36
EDWARD	collecting	1	5%	-45
NICOLA	stirrups	1	12%	-32
WAYNE	either	1	5%	-47
*VERNON	Suzy	1	7%	-26
*THERESA	leopard	1	9%	-32

\* VERNON and THERESA were Fair readers, all the other children were members of the Poorer readers' group.

As Table 10.1 shows 19 (73%) of the refused words have 2 or more syllables and 16 (61%) have 6 or more letters. Some of the shorter words presumably caused problems either because of their irregular sound-letter correspondence, (e.g. 'tyre', 'league') but it is also

important to remember that in being asked to read the self-generated texts of their class-mates, the children were likely to encounter words outside the range of their own vocabulary. For example, the word 'Zion' was both familiar and very meaningful to the 'author' of the text in question since it was the name of his football team - whereas to DARYLL, the child who encountered 'Zion' during the reading of his PEER-text, it was presumably both unfamiliar and unmeaningful. The same point could also be made with regard to the word "fossils". Fossil collecting was the hobby of the 'author' of the text but not a hobby of JASON's. Similarly the word 'stirrups' was refused by NICOLA - the 'author' of the text which included this word actually owned a horse - NICOLA did not.

Looking at the real age/reading age discrepancy scores of the children who made REFUSAL errors on the PEER-text it can be seen the children who made the highest number of this type of error also had very large real age/reading age discrepancy scores (BRIAN and ROSEMARY). However, whereas BRIAN's REFUSAL errors accounted for 32% of his total number of errors (a similar proportion to that recorded for him with respect to his SELF-text REFUSAL errors), ROSEMARY's 7 REFUSAL errors accounted for only 17% of her total errors. Thus whilst it might be said that for BRIAN and ROSEMARY a (relatively) high incidence of REFUSAL errors and a high real age/reading age discrepancy score went hand in hand, the relationship was far from clear-cut. More to the point, the REFUSAL error data and discrepancy scores of CRAIG, and to a lesser extent those of WAYNE and EDWARD, showed clearly that a high discrepancy score and a low proportion of REFUSAL errors was quite possible i.e. the discrepancy score of CRAIG (-55 months) was very similar to that recorded for BRIAN (-54) but CRAIG's error-profile included only 2 REFUSAL errors and these

accounted for only 7% of his total error score.

Thus looking at the overall pattern of REFUSAL errors, whilst it could be seen that these were largely the responsibility of the children with the lowest measured reading ages in the group of 52 children (i.e. the Poorer readers' group), it was also the case that only 1 child - BRIAN - could really be said to have an error-profile which was characterised by a high proportion of this type of error. ROSEMARY made almost as many REFUSAL errors as BRIAN but these accounted for only 17% of her total number of errors. Furthermore, apart from the broad finding that the Poorer readers were largely responsible for the REFUSAL errors which occurred, a close examination of the data showed that any relationship between reading-age and REFUSAL errors (within the Poorer readers' group) was extremely tenuous.

## Section 2: OMISSION errors on the PEER-text

As reported in the previous chapter, the total number of OMISSION errors which occurred during the children's reading of the PEER-texts was 44 and the errors which fell into this category accounted for 9.1% of all errors. In proportional terms the Better readers made the most OMISSION errors (13.9% of their errors were OMISSIONS) and the Poorer readers the least (7.2%). The corresponding proportional percentage figure for the Fair readers was 10.2%. The pattern of OMISSION errors recorded on the PEER-text, in terms of reading ability groups, was thus the same as that reported for the SELF-texts though the actual proportional percentages (overall and for each ability group) were slightly lower when the children read each others' texts.



The 44 OMISSION errors were examined and categorised in the same way as the OMISSION errors observed on the SELF-text i.e. as ACCEPTABLE, marginally acceptable or unacceptable. Examples of the errors are provided below but Table 10.2 presents an initial summary of the quantitative nature of the OMISSIONS as they were distributed between the Better, Fair and Poorer reading ability groups.

Table 10.2 The acceptability of OMISSION errors on the PEER-texts

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
ACCEPTABLE	n	4	6	4	14
	%	36.5	43.0	21.0	32.0
marginally ACCEPTABLE	n	5	6	7	18
	%	45.5	43.0	37.0	41.0
UNACCEPTABLE	n	2	2	8	12
	%	18.0	14.0	42.0	27.0
TOTALS	n	11	14	19	44
	%	100.0	100.0	100.0	100.0
PROPORTIONS OF OMISSIONS TO ALL ERRORS (%)		13.9	10.2	7.2	9.1

As Table 10.2 indicates the majority of the OMISSION errors (overall) were marginally acceptable and if the acceptable and marginally acceptable categories are collapsed 73% of the errors caused no serious disruption of the meaning of the sentences in which they occurred. Putting this finding more simply only 27% of the OMISSION errors were classified as unacceptable and the Poorer readers were responsible for the majority of these (8 of the 12 UNACCEPTABLE ERRORS: 67%).

Focussing more closely on the differences between the three reading ability groups, and the 'quality' of their OMISSION errors on

the PEER-text, it can be seen that the Fair readers made the highest proportion of ACCEPTABLE errors (43%) whilst the corresponding percentages for the Better and Poorer groups were 36.5% and 21.0% respectively. When the ACCEPTABLE and marginally acceptable categories are collapsed the data of the Better and Fair readers are more similar (82% and 86% respectively) though the Fair readers are still seen to do the best. The combined ACCEPTABLE and marginally acceptable data of the Poorer group readers results in a markedly lower percentage of omitted words which could be considered to constitute 'good' rather than 'bad' errors (59%). Although it was not possible to carry out a statistical analysis of the OMISSION error data (the expected frequencies being too low to permit a Chi-square calculation) it can nevertheless be seen that the errors of the Poorer readers were most likely to be disruptive of the sentences in which they occurred. Nevertheless, more than half of the OMISSION errors made by the readers in this group were either ACCEPTABLE or marginally acceptable. However, a closer examination of the OMISSION error data showed that only 28 of the 52 readers had actually made OMISSION errors. Of these children 9 were better readers, 10 were Fair readers and 9 were members of the Poorer readers' group. Any inferences to be drawn about the reading strategies of the children with regard to the 'quality' of their OMISSION errors were thus based on information gained from approximately half the total number of children in each of the three reading ability groups. Examples of the children's errors are provided below.

Examples of 'good' and 'bad' OMISSION errors on the PEER-text.

ACCEPTABLE errors

MARK: (Better reader re: 'school')

The teachers <sup>OM</sup> ~~there~~ weren't very strict.

PAUL: (Fair reader: re 'school')

We're <sup>OM</sup> ~~We'll~~ be doing rugby after half-term.

HELEN: (Poorer reader: 'the farm')

You milk them at 4 o'clock in the morning and  
<sup>OM</sup> ~~at~~ 4 o'clock in the afternoon.

The ACCEPTABLE errors disrupted neither the syntax nor the semantics of the sentences in which they occurred. As the examples from MARK and HELEN illustrate OMISSIONS were often concerned with the simple 'leaving out' of a word which was redundant to the essential meaning of the text. However, there were also occasions where an OMISSION occurred as a consequence of a previously made SUBSTITUTION error (PAUL's example above). In these instances the OMISSION of a word had the effect of preserving the syntax (as well as the meaning) of the sentence in which the SUBSTITUTION error had occurred.

MARGINALLY ACCEPTABLE errors

TINA: (Better reader re: 'playing Monopoly')

You have to do different things like buying  
houses <sup>OM</sup> and on each square it tells you something  
to do.

ROBERT: (Fair reader re: 'pets')

He's called Ben <sup>OM</sup> and he's a black labrador.

LISA: (Poorer reader re: 'pets')

If you throw things he gets them <sup>OM</sup> and brings  
them back and drops them.

As the examples show MARGINALLY ACCEPTABLE OMISSION errors usually involved the omission of a function word such as 'and'. This type of error had the effect of re-casting one sentence into two sentences, (TINA and ROBERT), or of 'punctuating' the existing sentence with an imagined comma (LISA).

UNACCEPTABLE errors

ALAN: (Better reader re: 'hobbies')

They just asked whoever wanted to play to go on to  
<sup>OM</sup>  
the field and they picked some of us.

JONATHON: (Fair reader re: 'pets')

You have to train her to <sup>OM</sup>~~the~~ whistle.

HELEN: (Poorer reader re: 'the farm')

In winter they have to go in the sheds and  
<sup>OM</sup>~~you~~ have to clean them out every week.

As the examples show these OMISSION errors were disruptive both in terms of the syntax and the semantics of the sentences in which they occurred although, like the ACCEPTABLE and marginally ACCEPTABLE, they usually involved the OMISSION of a function word.

Having categorised each of the 44 OMISSION errors which occurred during the reading of the PEER-texts as ACCEPTABLE, marginally ACCEPTABLE or UNACCEPTABLE the data were further examined in order to discover whether any of the individual children had consistently made errors which fell into one of these categories e.g. were the errors of a particular child, (from a particular reading ability group) always ACCEPTABLE, always marginally ACCEPTABLE, or always UNACCEPTABLE? This small-scale analysis corresponded with that made in relation to the OMISSION errors which had occurred during the SELF-text reading sessions and will facilitate a comparison in a later chapter when the data from the CLASS-text have also been presented (see Chapter 15).

Table 10.3 Consistently ACCEPTABLE, marginally ACCEPTABLE and UNACCEPTABLE OMISSION errors on the PEER-text.

	Better (n 17)	Fair (n 16)	Poorer (n 17)	All (n 52)
<u>Category of OMISSION errors</u>				
ALL ACCEPTABLE	2	5	0	7
ALL marginally ACCEPTABLE	3	3	2	8
ALL UNACCEPTABLE	2	1	3	6
'MIXED' OMISSION ERRORS	2	1	4	7
TOTAL CHILDREN INVOLVED	9	10	9	28
TOTAL OMISSION ERRORS	11	14	19	44

It was not possible to apply a statistical test to the data in Table 10.3 but the findings may be summarised as follows:

- \* 7 of the 28 children involved made OMISSION errors which were consistently ACCEPTABLE. None of these readers were members of the Poorer group. However, only 2 of the 7 children were Better readers so of the three ability groups the Fair readers seemed most likely to have made consistently ACCEPTABLE OMISSION errors.
- \* 8 readers made OMISSION errors which were consistently marginally ACCEPTABLE. Two of the children were Poorer readers and the remaining 6 readers were distributed evenly between the Better and Fair ability groups.
- \* 6 children made OMISSION errors which were consistently UNACCEPTABLE. The majority were Poorer readers but 2 Better readers as opposed to 1 Fair reader made consistently UNACCEPTABLE errors.
- \* 7 children made OMISSION errors which were neither consistently 'good' or 'bad' (i.e. their errors fell into more than one of the ACCEPTABLE, marginally ACCEPTABLE or UNACCEPTABLE categories). The majority of the children making these 'mixed' OMISSION errors were Poorer readers (4) as opposed to (1) Fair reader and (2) Better readers.

Thus, simplifying greatly, the data presented in Table 10.3 offers no clear evidence that the OMISSION errors of the Better readers were the most likely to be consistently 'good' and the OMISSION errors of the Poorer readers consistently 'bad'. However, there is the suggestion that the Poorer readers' errors were the least likely to be consistently ACCEPTABLE and that readers in this group were the most likely to produce consistently UNACCEPTABLE errors.

In summary, the qualitative analysis of the OMISSION errors which occurred during the children's reading of the PEER-texts showed that whilst the 'quality' of the errors varied, the majority could be interpreted as being 'good' rather than 'bad' errors - only 12 (27%) of the 44 errors were judged to be UNACCEPTABLE. Most of these UNACCEPTABLE errors (67%) were produced by Poorer readers. However, since only 10 of the 17 children included in the Poorer readers' group actually produced OMISSION errors it would be something of an over-generalisation to suggest that a predisposition to produce 'bad' OMISSION errors was a characteristic feature of the error-profile of the remedial readers with the lowest measured reading ability in the group of 52 children studied. Whether this conclusion held true when the OMISSION error data from the SELF, PEER and CLASS-texts were combined is the subject for discussion in a later chapter. (Chapter 15).

### Section 3: INSERTION errors on the PEER-text

The actual number of INSERTION errors which occurred during the reading of the PEER-text was extremely small - only 12 errors fell into this category. In percentage terms 2.5% of the total number of

errors made on the PEER-text were INSERTIONS. Nevertheless a brief survey of the qualitative aspects of these errors was undertaken in order to facilitate a later comparison with the SELF and CLASS-text analyses.

When the PEER-texts of the 52 children were examined it could be seen that only 9 readers had made INSERTION errors. Of these children 2 were Better readers, 2 were Fair readers, and 5 were members of the Poorer readers' group. Thus whilst the incidence of INSERTION errors on the PEER-text was very low, the initial quantitative analysis suggested that the children in the Poorer ability group were most likely to produce this type of error - a finding which was compatible with that reported in Chapter 7 with respect to INSERTION errors on the SELF-text.

A closer examination of the 12 errors revealed that all but 3 (25%) could be regarded as ACCEPTABLE and that, whilst the Poorer group children had produced 6 of the 12 errors, none of these were UNACCEPTABLE in the sense that they disrupted the syntax or semantics of the sentences in which they occurred. The findings concerning the ACCEPTABLE and UNACCEPTABLE INSERTION errors of each of the three ability groups are presented in Table 10.4 below.

Table 10.4 ACCEPTABLE and UNACCEPTABLE INSERTION errors on the PEER-text for each of the ability groups.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
ACCEPTABLE errors	1	2	6	9
UNACCEPTABLE errors	2	1	0	3
TOTALS	3	3	6	12



Although the number of errors concerned was so small it was apparent from the qualitative analysis that of the 3 UNACCEPTABLE errors which had been recorded 2 were the responsibility of the Better group, although a closer examination of the data revealed that 1 child, TINA, had made both of these errors and that they had occurred consecutively during the reading of a single sentence. The remaining UNACCEPTABLE error was the responsibility of JASON of the Fair group. In summary the evidence which could be gleaned from the qualitative analysis of the INSERTION errors on the PEER-text gave no indication that the 'quality' of the errors of the Poorer group children was inferior to that of the errors produced by the Better and Fair group readers. In fact, the information that could be provided by the small number of errors which had occurred pointed to the opposite conclusion - each of the UNACCEPTABLE errors which occurred were the responsibility of children from either the Better or Fair reading ability groups.

In reporting the findings concerning the INSERTION errors which occurred during the reading of the SELF-texts the incidence of errors made in response to elision-forms (I've/they've) was discussed since it was evident that such contracted forms had provoked a large number of INSERTION errors. Such errors had been judged ACCEPTABLE since they involved the children concerned producing the full-form (e.g. 'I have') for the corresponding elision-form (e.g. I've). It was suggested that these errors might be regarded as evidence of the children's attempts to 'formalise' the language of the SELF-texts in order to render it more 'bookish'. (See Chapter 7). The much lower incidence of INSERTION errors (of any type) on the PEER-texts was a

finding which, in itself, made this suggestion less attractive. However, it is worth mentioning in this connection that 6 of the 12 INSERTION errors recorded during the PEER- text readings were produced in response to elision-forms and that in each of these cases the acceptable full-form of the contracted word was provided. Children from each of the three ability groups made this kind of error but it was interesting to note that of the 6 errors which did not occur in response to elision-forms the 3 ACCEPTABLE errors were made by children from the Poorer group. In other words the ACCEPTABLE INSERTION errors made by the Better and Fair group readers were confined to the elision-form category whilst the ACCEPTABLE errors of the Poorer readers also included other types of INSERTION errors. Examples of the children's errors are provided below:

ACCEPTABLE INSERTION errors (elision-forms)

ALAN: (Better reader re: 'football')

----and when <sup>they are</sup>~~they're~~<sup>^</sup> on the attack you make sure you stop them.

AMANDA: (Fair reader re: 'hobbies')

I decided to collect them because <sup>is</sup>~~it's~~<sup>^</sup> a hobby.

HELEN: (Poorer reader re: 'school')

<sup>we have</sup>~~We've~~<sup>^</sup> made apple crumble, baked apples and scones.

As mentioned above each of the 3 ACCEPTABLE errors which did not occur in response to elision-forms were made by Poorer readers - examples are provided below.

#### ACCEPTABLE INSERTION errors (non elision-forms)

BRIAN: (Poorer reader re: 'hobbies')

I get changed when I get home<sup>from school</sup> and then I  
play my tape recorder.

MARK: (Poorer reader re: 'school')

You have to make up a story and<sup>then</sup> the  
others try to guess if it's true or false.

As the examples show 2 of the 3 ACCEPTABLE errors were made by BRIAN and occurred consecutively during the reading of a single sentence. The errors were judged ACCEPTABLE since they neither disrupted the syntax nor changed the meaning of the sentences concerned. (The author of BRIAN's text was actually referring to getting home 'from school').

#### UNACCEPTABLE INSERTION errors

As mentioned above the 3 UNACCEPTABLE errors which were recorded during the reading of the PEER-texts were the responsibility of 1 Better and 1 Fair reader.

TINA: (Better reader re: 'hobbies')

You had to put cotton wool round them and put <sup>it</sup> <sup>into</sup>  
 little buttons on the front.

JASON: (Fair reader re 'greyhounds')

They make a mess everywhere so we keep them in <sup>a shed</sup>  
~~in sheds~~.

These errors were judged UNACCEPTABLE because, strictly speaking, they had the effect of changing the intended meaning of the sentences in which they occurred. However, it is also worth noting that none of the errors were disruptive in terms of the syntax of the sentences and JASON's error, although it was judged UNACCEPTABLE on the grounds that it changed the meaning to convey the information that a single shed (not several) was involved in the internment of the 'messy' greyhounds, it was hardly of the same degree of unacceptability of the errors produced by TINA. Such are the problems involved in attempting a qualitative analysis of oral reading errors.

#### Concluding comments on the INSERTION errors: PEER-texts

As the number of INSERTION errors observed during the children's reading of the PEER-texts was so small it is difficult to draw any conclusions about their possible functions or their possible relationship to the children's reading ability. In one respect perhaps the most interesting finding which emerged was concerned with the low incidence of INSERTION errors on the PEER-text by comparison

with the number recorded on the SELF-text. This finding will receive consideration in Chapter 15 where the CLASS-text data can also be included in the comparison. Having said this the information which was available from the qualitative analysis of the 12 INSERTION errors on the PEER-text did indicate that the majority of these errors were 'good' in the sense that they caused no disruption of the semantics or the syntax of the sentences in which they occurred. A further finding was concerned with the indication that the Poorer readers' errors were by no means 'inferior' to those recorded for the Better and Fair group children. These findings were of interest in as far as they made a contribution to the 'total picture' of the children's INSERTION errors which could be gained from a consideration of errors of this type which occurred on the three types of text used in the study (i.e. the SELF- texts, PEER-texts and CLASS-text - see Chapter 15).

The present chapter has reported the findings regarding the qualitative analysis of the REFUSAL, OMISSION and INSERTION errors which occurred on the PEER-texts. The following chapter completes the reporting of the PEER-text errors by focussing on the analysis of the SUBSTITUTION errors which occurred on this type of text.

## CHAPTER 11

THE QUALITATIVE ANALYSIS OF THE SUBSTITUTION ERRORS OBSERVED  
DURING THE CHILDREN'S READING OF THE PEER-TEXTS

This chapter reports the findings of the detailed analysis of the SUBSTITUTION errors which occurred during the children's reading of the PEER-text material. A total of 401 SUBSTITUTION errors occurred and these were analysed in the same way as that reported above in respect of the SELF-text SUBSTITUTION errors. The first stage of the analysis was thus concerned with the identification and description of 'non-word' errors.

Section 1: NON-WORD errors on the PEER-texts

An examination of the SUBSTITUTION-error data showed that a total of 24 non-words had occurred during the reading of the PEER-texts and that 16 of the 52 children had made this type of error. Of these children 4 were Better readers, 6 were Fair readers and 6 were members of the Poorer readers' ability group. Table 11.1 below summarises these findings.

Table 11.1 The number of NON-WORD SUBSTITUTION errors and the number of readers involved in each of the three ability groups: PEER-text.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
number of NON-WORDS observed	5	10	9	24
number of readers involved	4	6	6	16

In percentage terms the non-word errors accounted for 6% of all the SUBSTITUTION errors recorded. A Chi-square calculation showed that no statistically significant variations existed in the proportion of non-word SUBSTITUTIONS to all SUBSTITUTIONS across the three ability groups ( $\chi^2 = 2.78$ ; d.f.2; N.S.)

A further point which may be made is that many more non-word errors were produced during the reading of the PEER-texts than the SELF-text (24 as opposed to 5, representing 6% as opposed to 1.5% of all SUBSTITUTION errors) and that more readers from each of the three ability groups were involved. Only 5 readers had produced non-words on the SELF-text and of these 4 were members of the Poorer readers' group. This large increase in the production of non-word SUBSTITUTION errors was not altogether surprising since in reading a text originated by another child, the readers were likely to encounter words which were not part of their own (spoken) vocabulary and which might present particular difficulties in terms of the children's ability to successfully interpret (and synthesise) the graphic and contextual cues provided by the text. However, whether or not this interpretation of the reason for the increase in non-word errors on the PEER-text was appropriate was a question which could best be investigated through a consideration of the particular target words which had provoked non-word responses i.e. was it the case that such target words might have a particular familiarity and relevance for the 'authors' of the PEER-texts which was not shared by the subsequent readers. Table 11.2 shows the whole corpus of non-word errors which occurred.

Table 11.2 NON-WORDS produced during the PEER-text reading performances.

	CHILD	NON-WORD	TARGET-WORD
<u>BETTER READERS</u>			
	ALAN	Sobutcha	Sobutio
	"	Zeeon	Zion
	ANDREW	Greekwood	Greatwood
	JASON	Cockatiles	Cockatiels
	JOANNE	Plagews	Plagues
TOTAL	(4 READERS)	(5 NON-WORDS)	
<u>FAIR READERS</u>			
	PAUL	far-row	farrow
	"	"	"
	"	"	"
	"	they-ree	they're
	"	"	"
	VERNON	Niagger	Nigeria
	AMANDA	ackrass	acres
	DEBORAH	machins	machines
	THERESA	turquorshell	tortoisesshell
	VICTORIA	rushette	rosette
TOTAL	(6 READERS)	(10 NON-WORDS)	
<u>POORER READERS</u>			
	CRAIG	racker	racer
	EDWARD	prend	pretend
	"	chassing	chasing
	JASON	bullinches	balances
	HELEN	draw-rer	drawer
	"	trouth	trough
	ROSE	catabags	cabbages
	"	troochers	trousers
	SANDRA	Mallita	Malta
TOTALS	(6 READERS)	(9 NON-WORDS)	

The data in Table 11.2 generally support the suggestion that non-word errors may have been produced largely in response to target words which might be considered to be 'specialised' to the vocabulary of the original authors of the tests. For example, looking first at the non-words produced by the Better readers, it is interesting to note that 3 of the 5 non-words were produced in response to target words which were proper nouns. An examination of the texts in



question suggested that each of these target words could be considered to be 'special' words to the authors of the text in the sense that they had some particular personal relevance. 'Sobutio' (read by ALAN as 'Sobutchá') was the name of a table-football game enjoyed by the text-author; 'Zion' (read by ALAN as 'Zeeon') was the name of the meeting-hall where the author of the text's football team trained; and 'Greatwood' (read by ANDREW as 'Greekwood') had special relevance to the author of the text in which it first appeared since it was the name of his Primary school. A similar point can also be made regarding the 2 remaining target words which provoked non-word SUBSTITUTIONS from Better readers on the PEER-texts i.e. although these were not proper nouns and so not 'specialised' in that sense, they were seen to have a particular personal relevance for the authors of the texts in which they appeared i.e. 'cockatiels' (read by JASON as 'cockatiles') referred to the breed of bird in which the family of the author took a special interest; the word 'plagues' (JOANNE read this as 'plagews') - used as a verb in this context - 'Dad plagues it' (the cat) - appeared as part of a rather unusual speech form, one with which JOANNE may not have been familiar. (This in addition, of course, to the irregular letter-sound correspondence and general low-frequency of the word 'plagues'). It should be emphasised here that none of the 5 target words in question had presented any reading difficulties for the authors of the texts during the SELF-text presentation and that the children who subsequently read these texts as PEER-texts were matched with the authors for reading age and gender. One might assume then that the graphic difficulties associated with e.g. 'Sobutio' and 'plagues' would be of the same order for both sets of children but that in the SELF-text presentation these were mitigated by the special relevance of the context in which the words appeared.

Looking at the non-words produced by the Fair readers similar points can be made though only one of these reading errors was produced in response to a proper noun: VERNON's 'Niagger' as a response to 'Nigeria'. Nevertheless, leaving aside PAULS's 'they-ree' and DEBORAH's 'machins' (see below) all the other target words ('farrow', 'acres', 'tortoisesshell', and 'rosette') could be seen to have been specially meaningful to the authors of the text in which they appeared because they had great personal relevance. For example the term 'farrow' was used by the author of the text in connection with his specialised knowledge of pig-breeding:

"We breed pigs and when the little pigs grow older we sell them. When they farrow you have to watch them in case the mother lies on the pigs".

An examination of the texts which provoked the non-words 'ackrass', 'turquorshell' and 'roshette' showed that the target words concerned also appeared in similar circumstances of personal relevance to their authors.

e.g. "We've got two acres of field"

"I've had tortoisesshell ones, peacock ones and blue ones..."

"---you can go jumping or racing and if you win you get a rosette".

However, the remaining two non-words produced by the Fair readers, 'they-ree' and 'machins' were of a different order since the target words 'They're' and 'machines' could not be regarded as occurring as part of a specialised vocabulary of personal relevance. 'They-ree' seemed a particularly strange response to 'they're' - the more so since an examination of the text in question showed PAUL was actually capable of reading this contracted form correctly. The errors occurred in the context of the 'pig-breeding' passage referred to above but it was interesting to note that not only did the correct reading of 'they're' also occur within this context, but also within the same sentence as one of the 'they-ree' errors.

<sup>They-ree</sup>  
 "They're called Gelts when they've not had a  
 litter before - when they've had one litter  
 they're sows"

The other 'they-ree' error was produced in the context:

<sup>they-ree</sup>  
 "they're Gelts"

It would appear that PAUL -obviously familiar with the contracted form 'they're' and capable of reading it correctly on one occasion - was easily 'thrown' by its appearance in connection with the technicalities of pig-breeding terms - such is the importance of a reader's ability to comprehend as well as de-code the text.

DEBORAH's 'mach-ins' for 'machines' is less easy to explain since it occurred in what one would have expected to be a reasonably accessible context:

"---we've used Bunsen burners and some measuring  
mach-ins  
machines"

However, it does seem possible that the reference to Bunsen burners (and later to a 'thermometer') may have set up an expectation for technical or specialised terms: perhaps DEBORAH perceived a 'measuring mach-in' as a piece of equipment of the same order - something that would be used in a science lesson. If the non-words produced by the Better and Fair readers could be partially explained by the notion that the corresponding target words occurred in somewhat specialised contexts (i.e. technical or personal) what of the non-words produced by the Poorer readers? An examination of their 9 non-words suggested that wider influences, connected with their generally lower reading ability, were at work. For example, the target words 'pretend' (EDWARD: 'prend'); 'chasing' (EDWARD: 'chassing'); 'drawer' (HELEN: 'draw-er'); 'cabbages' (ROSE: 'catabags') and 'trousers' (ROSE: 'troochers') were not used in any particularly 'specialised' or 'technical' sense by the original authors of the texts in which they appeared, and a general lack of graphic de-coding skills seemed the most likely explanation for the non-words produced by the children concerned. In fact, only 4 of the 9 target words 'Malta' (SANDRA: 'Mallita'), 'balances' (JASON: 'bullinches'); 'trough' (HELEN: 'trouth'); and possibly 'racer' (CRAIG: 'racker') lent themselves to the 'specialised/personal relevance' explanation outlined above in respect of the Better and Fair readers. 'Malta', a proper noun and a holiday destination for

the original author of the text obviously fell into the ‘personal relevance’ category whilst ‘bullinches’ for ‘balances’ was produced by JASON in circumstances similar to those described in respect of ‘mach-ins’ above.

e.g. "We've got measuring cylinders, chemical  
       bullinches  
       balances and microscopes".

In this example a ‘technical set’ perhaps provoked the non-word (see ‘measuring mach-in’ above). ‘Trough’, which HELEN transformed into ‘trouth’, apart from being a difficult word in the graphic sense, could also be seen to fit into the ‘personal relevance’ explanation in as much as the context in which it was used was of high personal relevance for the original author of the text in which it occurred - she lived on farm and was speaking about feeding the cows (‘they’ve got a water trough’).

Finally, the target word ‘racer’ (CRAIG: ‘racker’), apart from the problem of its irregular sound-letter correspondence, was used in the context ‘racer-bike’

e.g. "It's a <sup>racker</sup>~~racer~~-bike with gears and the gears help  
       you to go faster".

Whilst it seems unlikely that CRAIG had not heard the term ‘racer-bike’ before, the word ‘racer’ used in this context had a great deal of relevance for the original author of the text (being his prize possession) but less relevance for CRAIG.

Thus it could be seen that the tendency of the children to produce non-word errors, although negligible during the SELF-text performances, was a more marked and more generalised problem when the PEER-text reading performances were considered and that the 'accessibility' of a text in terms of a reader's prior knowledge of its subject matter appeared to have a bearing on whether or not this particular problem was apparent in the error-profiles of the readers. Furthermore, although non-word errors were more or less confined to the Poorer readers' error-profiles with respect to the SELF-text, the PEER-text performances produced roughly equivalent numbers of non-words from each of the Better, Fair and Poorer groups. The non-words produced by the Better and Fair readers were largely a response to the 'specialised' or highly personal context in which the target words appeared whereas the Poorer readers concerned were more likely to offer a non-word in more accessible contexts (e.g. 'cabbages' for 'cabbages'; 'prend' for 'pretend').

## Section 2: The GENERAL graphic similarity and semantic and syntactic acceptability of SUBSTITUTION errors on the PEER-texts

This section gives an overview of the children's use of graphic, semantic and syntactic information during the reading of the PEER-texts by reporting the percentages of SUBSTITUTION errors which had some element of graphic similarity and some semantic and syntactic acceptability with the corresponding target words. This summary of the 'gross' findings is then supplemented in Section 3 by a closer examination of the use of each type of textual information in accordance with the more detailed levels of analysis described in Chapter 5 Fig. 5.1.

Table 11.3     The percentages of SUBSTITUTIONS with some element of graphic similarity and semantic and syntactic acceptability: PEER-texts.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
some GRAPHIC SIMILARITY	75.0	87.0	83.0	83.0
some SEMANTIC ACCEPTABILITY	88.0	81.0	87.0	85.0
some SYNTACTIC ACCEPTABILITY	97.0	90.0	91.0	91.0

As Table 11.3 suggests readers made good use of all three types of information when the errors were subjected to a crude analysis of their similarity/acceptability. Chi-square calculations (raw data) revealed no statistically significant results in terms of the variation in the graphic similarity and semantic/syntactic acceptability of the errors across the three ability groups. However, it was of interest to note that the Better readers made the lowest proportion of graphically similar errors and the highest proportions of errors which were semantically and syntactically acceptable (at this 'gross' level of analysis). With respect to graphic similarity this finding was in accordance with the performance of the Better readers during the SELF-text reading sessions (see Chapter 8). However, this point will be discussed in a later chapter when the findings from the CLASS-text performances have been reported.

Section 3: The detailed analysis of the use of graphic, semantic and syntactic cues in producing SUBSTITUTION errors on the PEER-texts.

1. The use of GRAPHIC cues: BEGINNING, MIDDLE and ENDING similarity.

Table 11.4 shows the percentages of SUBSTITUTION errors which had beginning, middle and ending graphic similarity with the corresponding target words.

Table 11.4 The percentages of SUBSTITUTIONS with BEGINNING, MIDDLE ENDING graphic similarity to PEER-text target words.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
BEGINNING similarity	71.0	78.0	73.0	74.0
MIDDLE similarity	55.0	70.0	56.0 *	60.0
ENDING similarity	31.0	26.0	22.0	24.0

\* A Chi-square calculation showed a statistically significant variation in the proportions of errors with MIDDLE similarity across the three ability groups:  $\chi^2 = 6.85$ ; d.f.2;  $p < 0.05$ .

Looking first at the overall percentage figures, Table 11.4 shows the very clear distinction between the graphic similarity of the beginning, middle and endings of the SUBSTITUTION errors in terms of their correspondence with the target words in question - the highest percentage (74%) showing beginning similarity, and the lowest (24%) showing ending similarity. This pattern of response was the same as that reported above regarding the graphic similarity of the SELF-text SUBSTITUTION errors (Chapter 8).

In discussing the deleterious effect upon reading accuracy of the children's apparent scant regard for the final letters of the target words Chapter 8 focussed on two Poorer readers, TRACEY and



EDWARD in an attempt to illustrate this problem. Since this problem was not confined to the Poorer group readers it seems appropriate in this chapter to focus on two Fair group children - THERESA and ROBERT. A later Chapter (Chapter 14) will complete the pattern by giving detailed examples of the same type of error made by two Better readers.

### THERESA

THERESA was a member of the FAIR readers' group and one of the children who, whilst not a full-time member of the school's remedial department, visited the department 'on extraction'. This meant that whilst most of her school week was spent in a main-stream class, she visited the remedial department on two occasions each week in order to receive special help with reading.

At the time of reading the PEER-text THERESA's chronological age was 12 years and 4 months and her reading age (Schonell) was 9 years 9 months. This meant she had a reading age discrepancy score of -31 months and was typical of the Fair readers' group in this respect (Mean discrepancy -30; s.d. 4.7). THERESA's error per hundred words score on the PEER-text was 2.5 (group mean 2.26; s.d. 0.9) and she made a total of 11 errors., All but one of these (a REFUSAL) were SUBSTITUTION errors. THERESA's SUBSTITUTION errors, along with the corresponding target words are shown in Table 11.5 below.

Table 11.5 THERESA's SUBSTITUTION errors: illustrating the general lack of graphic ENDING similarity.

READER	TARGET WORD	SUBSTITUTIONS
THERESA	worms	'worm'
	Hopper	'Hoppy'
	they're	'there's'
	it	'it's'
	I've	'it'
	had	'has'
	starts	'start'
	that	'they'
	that	'it'*
	tortoisell	'turguoshell'*

\* graphic ending similarity.

As the table shows, only 2 (20%) of THERESA's SUBSTITUTION errors had final letters which were the same as the final letter of the corresponding target words. By contrast 9 of the 10 SUBSTITUTIONS (90%) had beginning letters in common with those of the target words and of the 8 target words which had 'middle' letters (i.e. 'it' being excluded) all but 1 of the SUBSTITUTIONS had 1 or more middle letters which corresponded.

### ROBERT

Robert was also a member of the FAIR readers group and, like THERESA, was 'on extraction' from his main-stream class for twice-weekly help with reading. At the time of reading the PEER-text he had a chronological age of 11 years 9 months and a reading age (Schonell) of 9 years. This resulted in a reading age discrepancy score of -33 months. ROBERT's error per hundred words score on the PEER-text was 4.4 and he made a total of 15 errors. Twelve of the errors were SUBSTITUTIONS and 3 were OMISSIONS. ROBERT's SUBSTITUTION errors, with their corresponding target words, are shown

in Table 11.6 below.

Table 11.6 ROBERT's SUBSTITUTION errors: illustrating the general lack of graphic ENDING similarity.

READER	TARGET WORD	SUBSTITUTION
ROBERT	chewed	'chess'
	sock	'socks'
	he'd	'he'
	come	'comes'
	get	'gets'
	but	'and'
	we've	'we'd'
	given	'give'
	to	'and'
	boiled	'boil'
	started	'starting'
	ready	really *

\* graphic ending similarity

As the table shows, just 1 (8%) of ROBERT's SUBSTITUTION errors had its final letter in common with that of the corresponding target words whereas 10 of the 12 (83%) had initial letters in common, and of the 11 target words which had 'middle' letters ('to' being excluded) 9 of the SUBSTITUTIONS had some middle letters which corresponded.

The examples from THERESA and ROBERT, like those from two Poorer readers TRACEY and EDWARD in the earlier chapter, suggest a lack of attention to the endings of words rather than a lack of phonics knowledge - none of the target words have what could be described as particularly difficult endings. Thus the points made earlier in discussing the lack of final letter similarity of SUBSTITUTIONS on the SELF-texts equally apply: it seems unlikely that the readers could not make use of the 'salient cues' provided by the endings of words - rather it was the case that they did not.

2. The use of semantic cues: the WITHIN PASSAGE and WITHIN SENTENCE acceptability of the SUBSTITUTION errors on the PEER-texts and the successful use of the PRECEDING and SUCCEEDING linguistic context.

It was reported earlier in the present chapter that the overall percentage of SUBSTITUTION errors judged to be acceptable at at least one of the four levels of analysis ('passage'; 'sentence'; 'preceding context' or 'succeeding context') was very high: 86% of the substituted words would be regarded as showing some evidence of the use of semantic cues when the data were considered in this simplistic way. However, Table 11.7 below summarises the findings of the more detailed analysis of the semantic acceptability of the SUBSTITUTION errors in order to provide a more sensitive picture of the children's use of this type of textual information.

Table 11.7 The percentages of SUBSTITUTIONS semantically acceptable at the WITHIN PASSAGE, WITHIN SENTENCE, PRECEDING and SUCCEEDING levels of analysis: PEER-texts.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
within PASSAGE	43.0	47.0	41.0	43.0
within SENTENCE	65.0	66.0	55.0	60.0
with PRECEDING context	86.0	80.0	87.0	85.0
with SUCCEEDING context	79.0	80.0	80.0	79.0

A series of Chi-square calculations showed no statistically significant variations existed across the ability group data at any of the four levels of analysis - a finding which corresponded with that reported above regarding the SELF-text semantic acceptability data.

Semantic acceptability WITHIN PASSAGE and WITHIN SENTENCE:  
PEER-texts.

As Table 11.7 shows less than half of the substituted words were judged to be semantically acceptable at the all-important WITHIN PASSAGE level. The corresponding figure for the SELF-texts was 63%. Given that the children were reading texts generated by other children - texts which were high in personal relevance and interest to their original authors, it is perhaps not surprising that a high percentage of the SUBSTITUTIONS, though they may have been judged semantically acceptable at one or more of the other levels of analysis (e.g. 85% were acceptable 'with PRECEDING context') did not fulfill the essential criterion of preserving the intended meaning of the text. It would seem from this finding that any assessment of the readers' successful use of semantic cues which is based on only one type of text is likely to be misleading. However, this point can be better pursued in a later chapter where the CLASS-text data can also be included in the discussion.

Looking across the ability groups, the WITHIN PASSAGE data reveals no dramatic differences existed between the Better, Fair and Poorer readers and, as mentioned above, a Chi-square calculation (raw data) revealed no statistically significant variation in the proportions of errors which were acceptable at this level ( $\chi^2 = 1.24$ ; d.f. 2, N.S.). What is apparent from the data is that the overall finding that less than half of the SUBSTITUTIONS were acceptable in terms of preserving the essential reading of the PEER-text passages was applicable to each of the three ability groups.

As Table 11.7 shows an overall figure of 60% of the SUBSTITUTION errors were judged to be semantically acceptable at the WITHIN

SENTENCE level of analysis - an increase of 17% when compared to the WITHIN PASSAGE level. This data (like the corresponding data concerning the SELF-text) suggests that the children were more adept at making use of contextual cues than might have been apparent if only the WITHIN PASSAGE level of acceptability had been considered. A discussion of this point and how it can be related to the findings of previous oral reading error researchers was included above in Chapter 8 when the SELF-text data were considered.

Focussing on ability groups as a point of comparison it can be seen that, whilst there was virtually no difference between the acceptability percentages of the Better and Fair readers (65% and 66% respectively) the Poorer readers' percentage score was considerably lower ( $\chi^2 = 4.83$ , d.f. 2; N.S.). Nevertheless, the increase in the magnitude of acceptability in terms of 'PASSAGE' versus 'SENTENCE' level was still quite marked (14%) for the Poorer readers and thus the pattern of readers being more constrained by semantic cues at the WITHIN SENTENCE level than at the WITHIN PASSAGE level was consistent for all three ability groups.

Semantic acceptability with PRECEDING and SUCCEEDING context:  
PEER-texts.

Looking at the two remaining levels of the semantic acceptability of the substituted words during the PEER-text reading, the PRECEDING and SUCCEEDING levels, the main finding apparent from Table 11.7 is that the children seemed better able to make use of the semantic cues which preceded rather than succeeded the target words. This finding was again consistent with that revealed by the corresponding SELF-text data - although the actual percentages in respect of the acceptability of the SELF-text substituted words were

considerable higher for both these levels of analysis (PRECEDING = 95%; SUCCEEDING = 88%). This comparison again reflected the interaction between the readers' ability to make successful use of semantic information and the nature of the text in question. However, as Table 11.7 shows ability levels appeared to have had little effect on either PRECEDING or SUCCEEDING context acceptability (PRECEDING:  $\chi^2 = 3.07$ ; d.f. 2; N.S.; SUCCEEDING:  $\chi^2 = 3.58$ ; d.f. 2; N.S.)

The general pattern of findings relating to the successful use of PRECEDING and SUCCEEDING contextual cues at the level of semantic acceptability thus reflected the pattern reported in respect of the SELF-text data and was also consistent with the patterns reported by such researchers as Potter (1982) and others whose findings were discussed in this connection in Chapter 2 above. Acceptability levels were generally lower on the PEER-texts than on the SELF-texts - a finding which will receive further consideration in a later chapter where the corresponding CLASS-text data can be included in the discussion.

### 3. The use of syntactic cues: the WITHIN PASSAGE/SENTENCE and their acceptability with PRECEDING and SUCCEEDING context.

The 'general' syntactic acceptability of the SUBSTITUTION errors which occurred during the reading of the PEER-texts was very high - 90% or more for each of the three ability groups. (See Table 11.3 above). The percentage values reflected those reported in relation to the syntactic acceptability of the substituted words observed during the reading of the SELF-text passages (although they were generally slightly lower) and illustrated the close relationship between levels of semantic and syntactic acceptability when the data

were subjected to this 'crude' level of analysis ('general' semantic acceptability: 85%, 'general' syntactic acceptability: 91%).

Table 11.8 below presents the data concerning the more detailed analysis of the syntactic acceptability of the children's substituted words during the reading of the PEER-text passages.

Table 11.8    The percentages of SUBSTITUTIONS syntactically acceptable at the WITHIN PASSAGE/SENTENCE, PRECEDING and SUCCEEDING levels of analysis: PEER-texts.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
within PASSAGE/SENTENCE	74.0	69.0	66.0	68.0
with PRECEDING context	97.0	89.0	89.0	90.0
with SUCCEEDING context	85.0	83.0	84.0	84.0

A series of Chi-square calculations (raw data) showed no statistically significant variations existed in the proportions of syntactically acceptable SUBSTITUTIONS across the three ability groups at any of the three levels of acceptability. As Table 11.8 shows a much lower proportion (68%) of the SUBSTITUTIONS were judged to be syntactically acceptable at the WITHIN PASSAGE/ SENTENCE level of analysis than at the levels of PRECEDING or SUCCEEDING acceptability - a finding which reflected the patterns shown by the corresponding semantic acceptability data on both the SELF-texts and the PEER-texts.



#### Section 4. SINGLE-SOURCE and COMBINED-SOURCE SUBSTITUTION errors on the PEER-texts.

The rationale behind the attempt to investigate whether the children's SUBSTITUTION errors demonstrated the use of SINGLE-SOURCE cues (e.g. graphic or contextual) or COMBINED- SOURCE cues (e.g. the probable use of both graphic and contextual cues) was explained in Chapter 5 above where the analysis of the SUBSTITUTION errors was described, and also mentioned in Chapter 8 where the SELF-text data were under consideration. In Chapter 8 it was argued that the more proficient the reader, the more one would expect the use of COMBINED as opposed to SINGLE-SOURCE cues. However, the SELF-text data gave no support to this argument. On the contrary, the Poorer readers' errors illustrated the most frequent use of COMBINED-SOURCES (83% of their errors as opposed to 64% and 59% recorded for the Better and Fair readers respectively). No explanation could be offered for this finding and it was interesting to note that it ran counter to the notions of researchers such as Biemiller (1970); Murray and Maliphant (1982) and Potter (1983) all of whom have suggested that more able readers tend to be more flexible in terms of utilising both the graphic and the contextual information provided by the text. Nevertheless, none of these researchers have studied the oral reading errors of Secondary school remedial readers and neither have self-generated texts been used in previous research of this kind. This being the case, comparisons with existing findings were difficult and it was hoped that the analysis of the PEER-text data (and subsequently that of the CLASS-text) would throw light on the counter-intuitive finding observed regarding COMBINED-SOURCE errors and reading ability in connection with the SELF-text data.

Table 11.9 below summarises the findings regarding COMBINED and SINGLE-SOURCE SUBSTITUTION errors on the PEER-texts. Again no support was provided for the notion that the errors of the Better readers would best illustrate the use of COMBINED as opposed to SINGLE-SOURCE textual information.

Table 11.9    The percentages of COMBINED-SOURCE and SINGLE-SOURCE SUBSTITUTION errors for each of the reading ability groups: PEER-texts.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
COMBINED-SOURCE errors	75.0	79.0	78.0	78.0
SINGLE-SOURCE errors	25.0	21.0	22.0	22.0
TOTALS	100.0	100.0	100.0	100.0

As Table 11.9 shows the percentages of COMBINED and SINGLE-SOURCE errors observed across the three reading ability groups were very similar but the Better readers made the fewest (rather than the most) errors which indicated the possible use of both contextual and graphic cues. A Chi-square calculation showed no statistically significant variation in error-type frequencies according to reading ability ( $\chi^2 = 0.39$ ; d.f.2; N.S.). The somewhat unexpected finding - that Better readers seemed most inclined to produce SUBSTITUTION errors which stemmed from the use of either graphic or contextual information - reported in respect of the SELF-text data - was thus mirrored in the findings which stemmed from the corresponding analysis of the PEER-text errors. These findings will receive more attention in Chapter 14 where the CLASS-text data can also be included in the discussion. However, before the issue of COMBINED and SINGLE-SOURCE SUBSTITUTION errors is temporarily set aside, the additional analysis of the SINGLE-SOURCE errors must be reported.

This analysis corresponded with that already reported in respect of the SELF-text SINGLE-SOURCE errors and was undertaken in order to discover whether or not this particular type of error was made up of a higher proportion of SINGLE-SOURCE 'graphic', or 'contextual' errors. The relevant data are illustrated by Table 11.10 below.

Table 11.10 SINGLE-SOURCE SUBSTITUTION errors on the PEER-texts: percentages of 'graphic' and 'contextual' errors.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
GRAPHIC errors	6.0	32.0	33.0	28.0
CONTEXTUAL errors	94.0	68.0	67.0	72.0
TOTALS	100.0	100.0	100.0	100.0

No statistical analysis of the data reported in Table 11.10 was possible although it was very clear that the highest proportion of SINGLE-SOURCE errors were contextually constrained thus indicating the use of semantic/syntactic rather than graphic information. Of most interest was the wide discrepancy between the Better readers and the other ability groups, i.e. only 6% of the Better readers' errors suggested a sole focus on graphic cues as opposed to around 30% of the errors of the Fair and Poorer readers. Thus a point which may be made is that although the children with the highest measured reading ages were just as likely to make SINGLE-SOURCE errors as the other children in the sample, the nature of these errors differed i.e. the Better readers' SINGLE-SOURCE errors were far less likely to have been prompted by the sole use of graphic information than were the errors of the Fair and Poorer readers.

Thus the findings from the analysis of the sources of textual cues used by the children during the reading of the PEER-texts suggested (like the corresponding finding from the SELF-text data) that the majority (78%) of the SUBSTITUTION errors involved the combined use of graphic and contextual information whilst most of the SINGLE-SOURCE errors which did occur were contextually rather than graphically constrained.

#### Section 5: A Summary of the findings of the analysis of the errors which occurred on the PEER-texts.

The findings relating to each stage of the analysis of the SUBSTITUTION errors recorded during the reading of the PEER-texts are summarised below.

##### **NON-WORDS on the PEER-texts**

6% of the SUBSTITUTION errors were 'non-words' - a total of 24 errors which involved 16 readers. All the non-words had a marked graphic similarity with the target words in that each of the SUBSTITUTIONS had initial letters in common with the 'real' word and all but 1 also showed final letter similarity. The non-word errors on the PEER-text, like those occurring on the SELF-text, thus suggested the readers' concentration on graphic cues. This was not to say that the contextual information had been ignored - only that if it had been processed it had apparently been of little help in enabling the reader to 'solve' the word. The incidence of non-word errors was higher on the PEER-text than the SELF-text (2% non-words) and this finding presumably reflected the fact that the PEER-texts, unlike the SELF-texts, were not based on the reader's own oral

vocabulary. However, this point, along with the other non-word findings, will be further discussed in a subsequent chapter (Chapter 15) when the non-words which occurred on the CLASS-text have been reported.

#### **Use of GRAPHIC CUES on the PEER-texts**

A total of 83% of the children's SUBSTITUTION errors had some element of graphic similarity with the target words. However, when the ability groups were compared no clear-cut trend was apparent in the data. Better readers' errors showed the lowest general graphic similarity (75%) and Fair readers the highest (87%). The corresponding percentage figure for the Poorer readers was 84%. The finding that the Better readers' errors showed the least general graphic similarity on the PEER-text was compatible with the finding from the SELF-text in this respect though the PEER-text percentage was considerably higher at 75% than that of 62% observed on the SELF-text. Chapter 15 will provide a discussion of this point and will include a consideration of the CLASS-text data.

A more detailed examination of the graphically similar SUBSTITUTION errors showed 'beginning' and 'middle' similarity to have been much more frequent than 'ending' similarity. This finding reflected that reported for the SELF-text and thus the suggestion put forward earlier in this respect - that the children did not appear to be aware that the final letters in a word usually offer more salient cues than the middle letters - received additional support from the analysis of the PEER-text SUBSTITUTION errors. This point can also be more fully discussed when the CLASS-text data have been reported.

## Use of SEMANTIC cues on the PEER-texts

The overall level of the general semantic acceptability of SUBSTITUTION errors was 85% and differences between the ability groups were minimal. This figure was lower than the corresponding semantic acceptability figure of 97% on the SELF-text as might have been expected in as much as the PEER-texts provided the children with less specific 'background knowledge' than did the self-generated passages which were based on the children's own (oral) vocabulary, interests and experiences.

The more detailed analysis of the semantic acceptability of the errors at four different levels showed, like the corresponding data from the SELF-text, that the SUBSTITUTIONS were least acceptable when considered at the 'within passage' level (43%) and most acceptable when analysed at the level of 'preceding context' (85%). In terms of reading ability groups, neither of these findings revealed any patterns which could easily be related to the differing reading ages of the children. However, the analysis of the acceptability of the errors at the levels of 'within sentence' and 'with succeeding context' showed the Poorer readers to have done quite badly by comparison with the two higher ability groups.

In overall terms the readers appeared able to make much better use of the 'preceding' than the 'succeeding' context - a finding which reflected the corresponding analysis of the SUBSTITUTION errors on the SELF-text - though acceptability levels of each kind were considerably lower on the PEER-text. This was an expected finding in as much as it confirmed that the PEER-text, being less 'accessible' to the children in terms of 'background knowledge', prompted a higher

number of errors which distorted or totally obscured the intended meaning of the PEER-text's original author.

### **Use of SYNTACTIC cues on the PEER-texts**

The syntactic acceptability of the children's SUBSTITUTION levels was generally very high (92% overall) and the differences between ability groups in this respect were minimal. The more detailed analysis, at three levels of syntactic acceptability, also showed ability groups to have performed at a fairly consistent level. It was interesting to note that on the PEER-text the syntactic acceptability of the SUBSTITUTION errors was generally a good deal higher than the semantic acceptability. This had not been shown on the SELF-text where semantic and syntactic levels were very similar. This suggested that even though the children found the intended 'meaning' of the PEER- texts more elusive than the meaning of their own texts, the syntactic cues were nevertheless being attended to and processed with a fair amount of success. (Though this point needs further discussion and will be readdressed in Chapter 15 when the CLASS-text data can also be included for comparison). Generally speaking then, the analysis of the errors suggested that the children were able to make good use of the syntactic information provided by the PEER-texts.

### **SINGLE and COMBINED-SOURCE errors on the PEER-texts**

A much higher proportion of the SUBSTITUTION errors (overall) indicated the use of 'combined sources' rather than of a 'single source' of textual information. The percentage of errors which indicated that a combination of the graphic and contextual cues may

have been used was 78% (overall) with the result that the corresponding figure for single source errors (graphic or contextual) was 22%. There were no marked ability differences and the overall percentage figures were very similar to the corresponding percentages reported for the SELF-text errors. These two complementary findings thus gave a strong indication that attempts to synthesise the graphic and contextual information were a feature of the children's reading strategies.

When single-source errors were examined in order to discover whether these showed children attending more to the graphic or to the contextual cues, it became apparent that only 28% of the errors had been graphically constrained whilst 72% showed children attending solely to contextual cues. The direction of this difference was the same as that shown by the corresponding data from the SELF-text but the actual percentage values differed to a considerable extent. On the SELF-text only 10% of the errors showed the sole use of the graphic cues as opposed to 28% on the PEER-text. This was an interesting finding in as much as it suggested a greater reliance on graphic cues on the lesser 'accessible' of the two texts. A full discussion of this point will be offered in Chapter 15 when the CLASS-text data can also be considered.

## Generally

The themes running throughout the various analyses of the PEER-text SUBSTITUTION errors mirrored those that have already been reported for the SELF-text and left little doubt that the children were capable of making use of both graphic and contextual information. It was also clear that attempts were usually made to



synthesise these cues. However, it seemed very apparent that the presentation of the less 'accessible' PEER-text resulted in a shift of strategies. For example, there appeared to be quite strong indications that more attention had been directed towards graphic cues on the PEER-text. (More 'non-words', more single-source graphic errors and a higher general level of graphic acceptability). Since the accuracy levels on the two types of text were virtually equivalent such a shift in strategies could be viewed as an indication of the readers' attempts to cope with different types of text - different that is in terms of the children's specialised background knowledge of text content and intended meaning. However, this suggestion needs more discussion - particularly with respect to the possibility of differences in the 'flexibility' of reading strategies of the three reading ability groups. Chapter 15 which includes the relevant CLASS-text findings on this point will present a fuller discussion of the evidence presented by the SUBSTITUTION error data from each of the three types of text presented to the children.

## Section C: The CLASS-text

## CHAPTER 12

**READING ACCURACY AND PATTERNS OF ERROR ON THE CLASS-TEXT AND  
AN UP-DATE ON REAL AGE/READING AGE DISCREPANCY SCORES**

This chapter reports the number of errors observed during the children's reading of the CLASS-text - a passage of 397 words from Diamonds in the Dirt by A. Campbell (see Appendix D). As reported in the Method Section each of the 52 readers was presented with this extract in order to gain information about the number and nature of their oral reading errors on a 'conventional' text. The chapter also includes an 'up-date' on the children's measured reading ages and real age/reading age discrepancy scores.

The number of errors observed on the CLASS-text

The children attempted a total of 20,644 words during the presentations of the CLASS-text and the total number of errors recorded was 612. The overall error per hundred words score (ephw) was thus 2.94. Table 12.1 provides a breakdown of the mean ephw scores for each of the three reading ability groups.

Table 12.1 CLASS-text: Mean error per hundred words score for each of the three ability groups.

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
CLASS-text: errors per	$\bar{x}$	0.69	1.98	6.36	2.94
hundred words	s.d.	0.7	1.4	4.4	3.6

A one-way analysis of variance (ephw x ability) revealed that a statistically significant difference existed in the mean ephw scores of the three ability groups. ( $F = 21.02$ ; d.f. 2,49;  $p < 0.001$ ). However, a series of post hoc Scheffé texts indicated that no

statistically significant difference existed between the mean ephw scores of the Better and Fair readers. The results of the Scheffé tests are summarised in Table 12.2 below.

Table 12.2 Results of the post hoc Scheffé tests: mean error per hundred words on the CLASS-text.

Comparison of ability groups	F.value	d.f.	significance
Better (n 19) vs Fair (n 16)	1.03	2,49	N.S.
Better (n 19) vs Poorer (n 17)	21.86	2,49	p<0.001
Fair (n 19) vs Poorer (n 17)	11.91	2,49	p<0.001

The results of the statistical analysis of the children's reading accuracy on the CLASS-text thus indicated that the Poorer readers had made significantly more mean errors per hundred words than the Better and the Fair group children but that the reading accuracy of these two higher ability groups was very similar. The pattern of reading accuracy scores on the CLASS-text thus reflected the patterns already reported with respect to the SELF and PEER-texts.

#### Patterns of error on the CLASS-text

The distribution of the children's errors (raw scores) across the REFUSAL, OMISSION, INSERTION and SUBSTITUTION categories is illustrated in Table 12.3 below.

Table 12.3 The distribution of errors on the CLASS-text (raw data)

	REF.	OMIS.	INS.	SUBS.	ALL
Number of errors	17	22	34	539	612

As the raw data indicate, by far the largest number of oral reading errors fell into the SUBSTITUTIONS category. Table 12.4 below illustrates the pattern of errors observed when the data were converted into percentage scores and broken down in terms of reading ability groups.

Table 12.4 The proportion of errors falling into the REFUSAL, OMISSION, INSERTION and SUBSTITUTION categories for each of the three ability groups: CLASS-text.

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
REFUSALS	%	0.0	0.0	3.9	2.8
	n	0	0	17	17
OMISSIONS	%	14.8	4.8	1.9	3.6
	n	8	6	8	22
INSERTIONS	%	13.0	5.5	4.6	5.5
	n	7	7	20	34
SUBSTITUTIONS	%	72.2	89.7	89.6	88.1
	n	39	113	387	539
TOTALS	%	100.0	100.0	100.0	100.0
		54	126	432	612

As Table 12.4 shows by far the highest proportion of errors fell into the SUBSTITUTIONS category (88.1% overall) with the result that the REFUSAL, OMISSION and INSERTION errors taken together accounted for only 11.9% of all errors. Whilst it is not the purpose of the present chapter to compare the error distributions on the SELF, PEER and CLASS-texts, it is perhaps worth mentioning at this point that of

the three types of text the SELF-text prompted the highest proportions of REFUSAL, OMISSION and INSERTION errors. Taken together these categories accounted for 26.3% of the errors on the SELF-texts, but only 7.9% and 11.9% of the errors observed on the PEER and CLASS-texts respectively.

#### Patterns of error and reading ability: CLASS-text

When the error distribution for the CLASS-text was considered in terms of reading ability groups the most interesting feature of the data related to the occurrence of REFUSAL errors. As Table 12.4 shows the Poorer readers were responsible for all 17 of the REFUSAL errors which were observed. A second feature of the data related to the considerably higher proportions of OMISSION and INSERTION errors recorded for the Better readers - this resulting in a relatively lower proportion of their errors falling into the SUBSTITUTIONS category. Whilst it was not possible to calculate Chi-square values for the REFUSAL and OMISSION error categories (the expected frequencies being too small), a statistically significant variation in the error proportions of INSERTIONS and SUBSTITUTIONS across the three ability groups was apparent. The results of the relevant Chi-square calculations are summarised in Table 12.5 below.

Table 12.5 Patterns of error and reading ability: results of Chi-square tests: CLASS-text.

Category of error	Chi-square value	d.f.	significance
REFUSALS	No test possible	-	-
OMISSIONS	No test possible	-	-
INSERTIONS	6.35	2	p<0.05
SUBSTITUTIONS	14.16	2	p<0.001

Summarising the findings reported so far in this chapter it can be seen that reading accuracy on the CLASS-texts was generally very high since only 2.94 errors per hundred words were recorded overall. However, the reading accuracy of the Poorer readers was shown to be significantly lower than that of the children in the Better and Fair readers groups in statistical terms - their mean ephw score was 6.36 as opposed to scores of 0.69 and 1.98 for the Better and Poorer group readers respectively. These findings regarding reading ability and reading accuracy were consistent with the findings reported in respect of the SELF and PEER-texts. With respect to the findings regarding the distribution of errors across the REFUSAL, OMISSION, INSERTION and SUBSTITUTION categories, the main features of the data were concerned with the high proportion of SUBSTITUTION errors - 88.1% of all errors fell into this category - and the finding that whilst REFUSAL errors accounted for only 2.8% of the errors overall, the Poorer group readers were responsible for all errors of this type. An additional feature of the data was the finding that the Better readers' errors (in proportional terms) were much more likely to fall into the OMISSIONS and INSERTIONS categories than were the errors of the other children. Finally, it is worth mentioning that the error patterns recorded during the reading of the CLASS-text showed broad similarities with the patterns of error recorded on the

SELF and PEER-texts i.e. by far the largest proportion of the errors on each type of text fell into the SUBSTITUTIONS category and REFUSAL errors (with the exception of 2 errors on the PEER-text) were a feature of the error profiles of the Poorer group children.

Reading ages and real age-reading age discrepancy scores at the time of the CLASS-text reading session.

Session 7 also involved the administration of the Schonell Graded Word Recognition test in order to discover whether or not any marked change in the children's reading ages had occurred since the reading of the SELF-texts approximately 7 months earlier. The mean reading ages (SELF and CLASS-text sessions) of the Better, Fair and Poorer group are given in Table 12.6 below.

Table 12.6 Mean reading ages (Schonell) for the three ability groups at the time of the SELF-text and the CLASS-text reading sessions.

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
SELF-TEXT (OCTOBER)	$\bar{x}$	10:3	9:2	8:2	9:3
	s.d.	0.3	0.3	0.5	0.9
CLASS-TEXT (MAY)	$\bar{x}$	11:0	9:9	8:8	9:10
	s.d.	0.4	0.6	0.7	1.2
MEAN INCREASE (MONTHS)		9	7	6	7

As Table 12.6 indicates each of the Better, Fair and Poorer groups had made gains in their reading ages during the time which elapsed between the SELF-text and CLASS-text presentations. In terms of real age/reading age discrepancies however, no (relative)



improvement had taken place and a slight loss of ground was evident, particularly in the case of the Poorer readers (See Table 12.7 below)

Table 12.7 Mean real age/reading age discrepancy scores: SELF-text OCTOBER and CLASS-text (MAY).

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
SELF-text reading session	$\bar{x}$	-14.8	-28.9	-42.1	-28.1
OCTOBER	s.d.	4.5	3.4	6.8	12.5
CLASS-text reading session	$\bar{x}$	-15.0	-31.1	-44.8	-29.7
MAY	s.d.	5.3	5.8	8.9	14.2

The 'real' increase in the children's reading ages is, however, a factor which has to be acknowledged when reading accuracy and patterns of error on the SELF, PEER and CLASS-text are discussed (See Chapter 15).

In the next chapter the nature of the REFUSAL, OMISSION and INSERTION errors which occurred on the CLASS-text is described whilst Chapter 14 focusses on the findings of the detailed analysis of the SUBSTITUTION errors which were observed during the children's attempts to read this 'conventional' text. A subsequent chapter (Chapter 15) then considers the patterns and the 'quality' of the oral reading errors observed on the SELF, PEER and CLASS-texts and attempts to identify and describe the children's reading strengths and weaknesses as they were apparent on the three types of text.

## CHAPTER 13

**THE NATURE OF THE REFUSAL, OMISSION AND INSERTION  
ERRORS ON THE CLASS-TEXT**

This chapter provides examples of the REFUSAL, OMISSION and INSERTION errors which occurred during the children's reading of the CLASS-text extract and considers these errors in qualitative terms.

Section 1: REFUSAL errors on the CLASS-text

As reported in the previous chapter a total of 17 REFUSAL errors were recorded during the CLASS-text reading performances. This category of error accounted for just 2.8% of all errors but each of the REFUSAL errors were the responsibility of children in the Poorer readers' group and in proportional terms 3.9% of the errors of the children in this group were of this type. However, when the data were examined more closely it could be seen that of the group of 17 Poorer readers only 5 children had actually refused to attempt words during the oral reading performances and 2 of these children, IAN and ROSEMARY, had been responsible for 13 (76%) of the total number of 17 REFUSAL errors. It is worth mentioning at this point that ROSEMARY had also been responsible for a high proportion of the REFUSAL errors which were observed during the reading of the SELF and PEER-texts but that IAN had only made 1 previous REFUSAL error. This had occurred during his reading of the SELF-text. BRIAN, the 'REFUSER' highlighted alongside ROSEMARY in previous chapters because of his high proportion of REFUSAL errors on the SELF and PEER-texts made no errors of this type during the CLASS-text reading. This being the case ROSEMARY was

the only reader in the group of 52 children whose error-profile was consistently characterised by a relatively high proportion of REFUSAL errors.

Table 13.1 below presents the whole corpus of REFUSAL errors observed on the CLASS-text and includes the real age/reading age discrepancy scores of the children concerned as they appeared at the time of the CLASS-text reading performances.

Table 13.1 Words which provoked REFUSAL errors on the CLASS-text

CHILD*	WORDS REFUSED ON CLASS-TEXT	NUMBER OF REFUSALS	PROPORTION REF. TO CHILD'S TOTAL ERROR	R. AGE DISCREPANCY (MONTHS)
ROSEMARY	Eldorado, Finally, sure causing, ones, Whoever, heat	7	11%	-60
IAN	causing, caused, nothing, talked, sure sure	6	17%	-56
CRAIG	causing, Eldorado	2	3%	-54
DARYLL	Eldorado	1	5%	-35
JOANNE	Eldorado	1	2%	-39

\*All the readers were members of the Poorer group.

As Table 13.1 suggests certain words in the CLASS-text passage appeared to have caused problems, i.e. 'Eldorado' was refused by all the children who made this type of error with the exception of IAN and an examination of his data showed that whilst he had attempted this word he had done so unsuccessfully - he substituted the non-word 'Elbodo'. This suggested a brave attempt to make use of the graphic information - his SUBSTITUTION had the same initial and final letters as the target word and some middle-letter similarity - but also a trace of confusion over 'b' and 'd' (a reversal) in the first

syllable. In fact 'Eldorado' caused problems for many of the 52 children and a list of the SUBSTITUTIONS which occurred in response to this target word will be presented in the following chapter where SUBSTITUTION errors are considered in detail.

'Causing' was the second word which provoked a REFUSAL response from 3 of the 5 children making this type of error. 'Causing' appeared twice in the passage of 397 words and it may be remembered from the earlier chapter which described the procedure of recording errors (Chapter 4) that when a REFUSAL occurred the target word was provided by the author. This naturally meant that the likelihood of the same word being refused a second time was reduced and both IAN and CRAIG bore out this by reading 'causing' correctly the second time it occurred. However, ROSEMARY was different in this respect. Her REFUSAL of 'causing' occurred as a response to its second appearance in the text so it was interesting to examine her text-transcript to discover why this might be the case. This examination showed that she had substituted the word 'crashing' for 'causing' on the earlier occasion:

'... maybe someone had been <sup>crashing</sup>~~causing~~ accidents'

Consequently she would not have been provided with the correct word (SUBSTITUTIONS were not corrected by the author) following its first appearance in the text. It was interesting to note that whilst the substituted 'crashing' suggested ROSEMARY had probably made use of both the contextual and the graphic information provided by 'causing' on this first occasion - 'crashing' being very similar in graphic terms as well as being acceptable semantically and syntactically at the level of 'preceding context' - she obviously had doubts about

responding with 'crashing' a second time. Even though 'causing' appeared in a very similar context on the second occasion: ROSEMARY responded with a REFUSAL:

"... show the police that someone has been <sup>REF</sup>causing these accidents,...."

This seemed to suggest that the REFUSAL on the second occasion was a response due to more rather than less attention being paid to the graphic and semantic cues offered by the text - an indication perhaps that REFUSAL errors can occur for reasons which are much more complex than a simple 'poor decoding skills' or 'poor attack' explanation would suggest. Is a REFUSAL error a 'better' error than a SUBSTITUTION? Can such errors sometimes be the result of 'deep' rather than 'surface' processing? Such questions are impossible to answer in any way which is totally conclusive since no researcher can see inside a reader's head.

The word 'sure' also caused problems for 2 of the 5 children who made REFUSAL errors. This word appeared three times in the CLASS-text passage and as Table 13.1 shows ROSEMARY responded with a REFUSAL error on one occasion (its second appearance) and IAN refused the word twice (on its second and third appearance). An examination of the texts of the children concerned showed both ROSEMARY and IAN had substituted a different word for 'sure' on its first appearance in the reading passage. ROSEMARY responded with 'should', and IAN with the SUBSTITUTION 'sorry'. In considering these SUBSTITUTIONS it was interesting to note that 'sure' had appeared as the first word in a new sentence;

‘"Sure," Officer Stone said.’

This meant that no (within sentence) ‘preceding context’ cues were available to the readers and, presumably, that a heavy reliance must be placed on the graphic features of the target word. As the SUBSTITUTIONS ‘should’ and ‘sorry’ suggest this appeared to be the case - but the attempts at graphic decoding were only successful in as much ‘should’ and ‘sorry’ each had their initial letter in common with that of the target word. However IAN’s SUBSTITUTION was acceptable at the level of succeeding context, (‘Sorry’, Officer Stone said.’) whereas the replacement word offered by ROSEMARY was not. This raised the possibility that IAN was making use of the contextual as well as the graphic information offered by the text although this cannot of course be said for certain, (i.e. perhaps ‘Sorry’ was a lucky guess which sprang solely from the use of graphic cues). However this may be, there was good evidence to suppose that both IAN and ROSEMARY were unhappy with their initial attempts to decipher ‘sure’ since both children were unwilling to respond to the word when it appeared a second time. This finding again might be interpreted as suggesting that REFUSAL errors can sometimes be the result of a ‘deeper’ processing of the text than can SUBSTITUTION errors (i.e. in the light of the points raised earlier regarding ‘causing’). When ‘sure’ appeared for the third time ROSEMARY was able to give a correct response, presumably because she had been ‘given’ the word after her first REFUSAL response, but IAN again responded with a REFUSAL error and this was slightly surprising since more accessible contextual cues were available on this occasion:

‘"Somebody loosened them for sure", Neil said’.

Perhaps the contextually acceptable 'Sorry' had been a lucky guess after all.

Of the remaining words which were refused during the reading of the CLASS-texts: 'finally', 'ones', 'Whoever', 'heat', 'caused', 'nothing' and 'talked' it can be seen that whilst most had more than one syllable none could be regarded as particularly difficult in terms of their sound-letter correspondence (i.e. unlike 'league' and 'tyre' on the PEER-texts) but these refused words were all the responsibility of IAN and ROSEMARY whose graphic skills, as suggested by their real-age/reading age discrepancy, were poor. ROSEMARY had the highest discrepancy score (-60 months) of all the 52 children by the time she read the CLASS-text and had in fact widened the gap between her real-age and reading-age by 9 months in the time which had elapsed between the reading of the SELF-text and the CLASS-text. IAN's discrepancy score (-56 months) was also very high although, it must be said, it was only 2 months higher than that of CRAIG who made only 2 REFUSAL errors, and it was the same as that of BRIAN (the 'refuser' on the SELF and PEER-texts) who made no REFUSAL errors at all on the CLASS-text. As regards any general relationship between high discrepancy scores and the incidence of REFUSAL errors the data from the CLASS-text performances did suggest some link - the 3 children with the highest discrepancy scores were jointly responsible for 88% of the REFUSAL errors, and ROSEMARY, whose discrepancy score was highest of all, made the highest number of errors of this type. However, bearing in mind that BRIAN, who was featured in earlier chapters because of his high REFUSAL rate and his accompanying high discrepancy score, does not appear in the present chapter, the link between the incidence of REFUSAL errors and the incidence of a high real age/reading age discrepancy score must still be viewed as a

tenuous one.

## Section 2: OMISSION errors on the CLASS-text

OMISSION errors accounted for the next to the lowest proportion of all errors on the CLASS-text: just 3.6% of the errors (overall) fell into this category. However, when reading ability groups were compared the pattern of response regarding omitted words was the same as that observed on both the SELF and PEER-texts, i.e. Better readers made (proportionally) the highest percentage of OMISSION errors (14.8% of their errors fell into this category) and Poorer readers the lowest (only 1.9% of their errors were OMISSIONS). The percentage score of the Fair readers fell in between (4.8%) but was much more similar to that of the Poorer readers. Only 22 OMISSION errors actually occurred on the CLASS-text and these represented a score of just 0.08 of such errors per hundred words. Nevertheless, it was decided that a closer look at the qualitative nature of the errors would be worthwhile since this analysis could then be compared with the ones already undertaken on the OMISSION errors observed on the SELF and PEER-texts. (This comparison is included in a Chapter 15). Consequently the 22 errors were examined and categorised in the same way as the OMISSION errors which had occurred on the SELF and PEER-texts, i.e. as ACCEPTABLE, marginally acceptable and unacceptable. Detailed examples are provided below but Table 13.2 provides an initial summary of the distribution of the three different categories of OMISSION errors across the three reading ability groups.



Table 13.2 The acceptability of OMISSION errors on the CLASS-text

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
ACCEPTABLE	n	3	2	2	7
	%	37.5	33.3	25.0	31.8
MARGINALLY ACCEPTABLE	n	4	3	1	8
	%	50.0	50.0	12.5	36.4
UNACCEPTABLE	n	1	1	5	7
	%	12.5	16.7	62.5	31.8
TOTALS	n	8	6	8	22
	%	100.0	100.0	100.0	100.0
PROPORTION OF OMISSIONS TO ALL ERRORS (%)		14.8	4.8	1.9	3.6

As Table 13.2 shows there was very little difference between the overall proportion of OMISSION errors judged ACCEPTABLE, MARGINALLY ACCEPTABLE and UNACCEPTABLE. However, when the ACCEPTABLE and MARGINALLY ACCEPTABLE categories were collapsed the percentage of OMISSION errors which had caused no notable disruption of the semantics or syntax of the sentences in which they occurred was 68.2%. This meant that just over 31% of the errors were UNACCEPTABLE and an examination of the data showed that the Poorer readers were responsible for 71% of these errors.

No statistical analysis of the data in Table 13.2 could be carried out (the expected frequencies being too small to permit Chi-square) but, focussing on the differences apparent between ability groups, the data show something of a trend. The Better readers made the highest proportion of ACCEPTABLE OMISSIONS (37.5%) whilst 33% of the errors of the Fair group and 25% of the Poorer group's errors fell into this category. Collapsing the ACCEPTABLE and MARGINALLY ACCEPTABLE categories revealed that whilst the Better and Fair groups

were very similar regarding the percentages of OMISSION errors which did not disrupt the meaning and syntax of the sentences in which they occurred (87.3% and 83.3% respectively) the corresponding proportional percentage figure for the Poorer group was much lower (27.5%). (In simple terms 7 'bad' OMISSION errors occurred during the CLASS-text readings and 5 of these were the responsibility of Poorer group readers.)

It is worth noting here that since the CLASS-text passage was exactly the same for each child (unlike the SELF and PEER-texts) the context in which the OMISSION errors occurred could be compared. An examination of the data in this respect showed that certain sentences appeared to have provoked OMISSION errors from the Better and Fair readers but that this 'textual features' effect was not apparent as far as the Poorer readers were concerned. This finding is illustrated below where examples of OMISSION errors from children in each of the three ability groups are presented and where the actual number of children who made this type of error are considered.

#### **Better readers' OMISSION errors on the CLASS-text**

Only 6 of the 19 Better readers (5 boys, 1 girl) actually made OMISSION errors on the CLASS-text so the number of children involved as well as the small number of errors they made (8) was obviously a limiting factor to be borne in mind in attempting to draw conclusions about reading behaviour and the qualitative nature of OMISSION errors.

Nevertheless, an examination of the real age/reading age discrepancy scores of the 6 children in question was undertaken and this showed that their discrepancy score data had ranged from -13 to

-20 months at the time of the CLASS-text reading. The corresponding mean discrepancy score for the whole group of Better readers was -15 months (s.d. 5.3) so the 6 children were not exactly atypical in this respect. When their actual reading ages were taken into account (measured by Schone11 at the time of the CLASS-text reading) the data ranged from 10:6 to 11:0 years whilst the mean reading age for the whole sample of Better readers was 11:0 years (s.d. 0.4). They were thus also fairly typical of their group in this respect.

#### Better readers' ACCEPTABLE OMISSION errors on the CLASS-text

The 3 ACCEPTABLE OMISSION errors were made by 3 different children: LEE, PAUL and DARREN and the most notable thing about the errors was that each one occurred in exactly the same context and each child omitted the same word:

I want everything to be <sup>OM</sup> a~~ll~~ right for the race tomorrow.

As the sample shows, the word 'all' was omitted by each child and the error was judged ACCEPTABLE as the OMISSION neither detracted from the meaning nor disturbed the syntax of the sentence. This suggested that the children were reading ahead rather than in a word by word fashion - not an entirely unexpected finding since they were all 'Better' readers - but it was interesting to note the textual effect apparent in as much as each reader responded to this sentence of the text in exactly the same way whereas no ACCEPTABLE OMISSION error occurred in any other context.

# Better readers' **MARGINALLY ACCEPTABLE OMISSION** errors on the **CLASS-text**

Four children, 3 boys and 1 girl, were each responsible for 1 of the 4 **MARGINALLY ACCEPTABLE** errors which occurred during the reading of the **CLASS-text**. As with the **ACCEPTABLE** errors mentioned above a 'textual effect' was evident. 3 of these errors were identical and were observed in the sentence:

LEE, JOANNE, PAUL:

<sup>OM</sup>  
'I ~~just~~ fixed them.'

This error was judged as **MARGINALLY ACCEPTABLE** since although the omitted word 'just' did not have the effect of disrupting the syntax of the sentence the **OMISSION** did detract slightly from the intended meaning of the text.

The remaining marginally acceptable error occurred in a different context:

DARREN:

<sup>OM</sup>  
Shari ~~had~~ planned to race in the last heat.

No other child omitted the word 'had' in this particular context and this was thus the only one of the total of 7 'acceptable' and 'marginally acceptable' **OMISSION** errors which did not suggest any evidence of a 'textual effect'

Better readers' 'unacceptable' OMISSION errors on the CLASS-text

Just 1 'UNACCEPTABLE' OMISSION error was observed during the CLASS-text reading and this was the responsibility of a second DARREN (DARREN 2) who omitted the final word in the sentence:

DARREN 2:

"Sure," Officer Stone <sup>OM</sup>~~said~~.

Since the word 'said' in this context carried important information which was lost with DARREN's OMISSION this error was judged UNACCEPTABLE. As this was the only OMISSION error made by DARREN (2), and indeed the only UNACCEPTABLE error made by any Better reader during the CLASS-text reading, it was not really possible to speculate upon the reasons why it had occurred. However, it did seem unlikely that 'said' was an unfamiliar word and since DARREN (2) was not prone to omit words from the text perhaps a momentary lack of attention or the attempt to read ahead too quickly was the most likely cause of the error.

Thus of the 8 OMISSION errors made by 6 of the Better readers 3 were ACCEPTABLE, 4 were marginally acceptable and 1 was UNACCEPTABLE. However, the most interesting finding was that 6 of the 8 errors were identical suggesting that the structure of two sentences contained in the passage had tended to prompt OMISSION errors. More support for this finding was obtained when the OMISSION errors of the Fair readers were examined as is illustrated below.

### Fair readers' OMISSION errors on the CLASS-text

As Table 13.2 shows only 6 OMISSION errors were made on the CLASS-text by children in the Fair readers' group and these errors accounted for just 4.8% of their total error score. An examination of the data showed 6 children had each been responsible for 1 of the errors and that the 'textual effect' mentioned above in connection with the Better readers was similarly evident with regard to the ACCEPTABLE and marginally acceptable errors.

An examination of the reading age discrepancy scores of the 6 children concerned showed the data to range from -26 to -37 months. The mean discrepancy score was -31.5 (s.d. 5.5) and the mean score for the whole sample of Fair readers was virtually the same at -31.1 (s.d. 5.8). The 6 children who made OMISSION errors were thus representative of the group of Fair readers in terms of reading age discrepancy scores. Examples of the OMISSION errors falling into the 'ACCEPTABLE', 'marginally acceptable' and 'unacceptable' categories are provided below.

### Fair readers' ACCEPTABLE OMISSION errors on the CLASS-text

Two ACCEPTABLE OMISSION errors - 1 each by STEVEN and SARAH - were recorded on the CLASS-text and both errors were identical to the ACCEPTABLE errors by the Better group children i.e. both showed the same 'textual effect' and were made in the sentence:

OM  
'I want everything to be a<sup>OM</sup> right for the race tomorrow.'

As regards ACCEPTABLE errors then the only difference between the Better and Fair readers was that the same word was omitted by 3 of the Better readers but by only 2 of the Fair readers. Moreover, the similarity in their OMISSION errors on the CLASS-text was further illustrated when the marginally acceptable errors were compared (see below).

#### Fair readers' marginally acceptable omission errors on the CLASS-text

The 3 marginally acceptable errors - made by PAUL, JASON and LEE - were identical and occurred in exactly the same context as 3 of the marginally acceptable omission errors made by the Better group readers in the sentence:

'I <sup>OM</sup>~~just~~ fixed them.'

This gave further support to the notion that a 'textual effect' was a major contributor to the omission of certain words on the CLASS-text.

#### Fair readers' unacceptable omission errors on the CLASS-text

Just 1 Fair reader, JONATHAN, made an unacceptable omission error on the CLASS-text:

JONATHAN:

Shari had her hand <sup>OM</sup>~~on~~ the front wheel of her bike.

This was the only omission error made by Jonathan and it was judged unacceptable since it disrupted both the syntax and the semantics of the sentence. As JONATHAN was not prone to making omission errors it

was difficult to speculate upon the reason for this omitted word but it seemed fairly certain that the word 'on' would have caused no decoding problems and perhaps the only likely explanation for its OMISSION was concerned with a momentary lack of attention. No other child omitted this word from the text and it stood both as the only UNACCEPTABLE error and also as the only OMISSION error made by the Fair readers which did not show any evidence of a 'textual effect'.

Thus the OMISSION errors of the Fair readers were of a very similar nature to those of the Better readers although they accounted for only 4.8% of their total error score as opposed to the proportion of 14.8% which applied in the case of the Better readers. 1 child in each group made an UNACCEPTABLE error, and the ACCEPTABLE and MARGINALLY ACCEPTABLE errors for both groups were more or less identical suggesting that differences in reading ability had no effect on the quality or quantity of OMISSION errors on the CLASS-text passage.

#### **Poorer readers' OMISSION errors on the CLASS-text**

6 Poorer readers (5 boys and 1 girl) made a total of 8 OMISSION errors on the CLASS-text and an examination of the data showed that not only were these different errors (i.e. occurring in different contexts) from those made by the Better and Fair readers, but that they were also different in quality. 5 (62.5%) of the errors were judged UNACCEPTABLE and the ACCEPTABLE and MARGINALLY ACCEPTABLE OMISSIONS occurred in various contexts which suggested no identifiable 'textual effect' was in operation. An examination of the reading age discrepancy scores of the 6 readers showed that these ranged from -39 to -56 months. The mean discrepancy score for the whole sample of



Poorer readers was -44.8 months (s.d. 8.9). However, there appeared to be no connection between the discrepancy scores of individual children and their tendency to omit words from the text since the individual with the highest discrepancy score (BRIAN: -56 months) made exactly the same number of OMISSION errors (2) as did the individual whose discrepancy score was the lowest (JOANNE: -39 months). Furthermore both of JOANNE's errors were judged UNACCEPTABLE whereas BRIAN made 1 ACCEPTABLE and 1 UNACCEPTABLE error.

As the OMISSION errors were so few in number and involved only 6 readers each error is illustrated below.

Poorer readers' ACCEPTABLE OMISSION errors on the CLASS-text

BRIAN and DARYLL were responsible for the 2 ACCEPTABLE OMISSION errors observed:

BRIAN:

Al could see <sup>OM</sup> ~~that~~ the policeman really didn't believe that there was anything wrong.

DARYLL:

She was pulling <sup>OM</sup> ~~at~~ the spokes.

Both errors were judged ACCEPTABLE since neither disrupted the syntax or detracted from the meaning of the sentences in which they occurred.

Poorer readers' marginally acceptable omission errors on the CLASS-text

Only 1 marginally acceptable error was observed and this was made by LEE.

LEE:

I'll come <sup>OM</sup> ~~by~~ every hour or so.

The error was judged marginally acceptable since whilst it did not result in the syntax of the sentence being disrupted it did slightly detract from the intended meaning of the speaker in the text, i.e. the notion of the policeman patrolling depended on the inclusion of the word 'by'.

Poorer readers' unacceptable omission errors on the CLASS-text

Five unacceptable omission errors were made by 4 of the poorer readers. JOANNE was responsible for 2 errors whilst BRIAN, MARK and EDWARD each made 1 omission.

JOANNE:

(1) 'I <sup>OM</sup> ~~don't~~ know,' said Al.

(2) 'Which means you were right Al,' <sup>Sharp OM</sup> ~~Shari~~ said.

Both errors were unacceptable since they disrupted the meaning of the text. In the first example the omission of the word 'don't'

completely changed the intended meaning of the speaker (though the syntax of the sentence was still acceptable). The second OMISSION made nonsense of Shari's utterance and it seemed possible that the error was associated with the problem JOANNE had in reading this character's name - she substituted the word 'Sharp' or 'Sharps' for 'Shari' all the way through the passage and the hesitation that this caused during her reading had been noted by the author on her CLASS-text response sheet. (Many children had difficulty with this character's name - a point considered later when the SUBSTITUTION data is presented in the following Chapter.)

BRIAN:

Which <sup>men</sup> <sup>OM</sup> ~~means~~ ~~you~~ were right Al,' Shari said.

As the example shows, BRIAN's UNACCEPTABLE OMISSION error occurred in the same sentence as did one of JOANNE's errors but the nature of BRIAN's OMISSION was quite different in as much as it appeared to be a result of his attempt to accommodate his SUBSTITUTION of the word 'men' for 'means', i.e. '"Which men were right Al?", Shari said'. This example of UNACCEPTABLE OMISSION errors occurring in the same sentence but proving to be qualitatively different pointed up the complexity of oral reading errors generally as well as illustrating the difficulties associated with quantifying and qualitatively analysing the OMISSION errors, i.e. both errors were UNACCEPTABLE but BRIAN's was, arguably, the more meaningful and showed a more skillful attempt to process the text.

The 2 remaining UNACCEPTABLE OMISSION errors on the CLASS-text were the responsibility of EDWARD and MARK.

EDWARD:

These were all <sup>OM</sup>right yesterday.

MARK:

'But what about the ones that didn't race?' Al <sup>OM</sup>said.

The reason for EDWARD's OMISSION of the word 'right' was difficult to pinpoint although the phrase 'all right' had caused problems for the Better and Fair readers, as mentioned above. However, MARK's OMISSION of 'said', though it obviously occurred in a different context, was reminiscent of the error made by JOANNE. In both cases 'said' appeared as the final word in a sentence which contained actual speech from a character in the story, but since no other reader had difficulty with this word order (e.g. 'Al said.' as opposed to the alternative form 'said Al.') there was no clear evidence that a 'textual effect' might have contributed to this type of OMISSION error.

Thus although the Poorer readers actually made the same number of OMISSION errors on the CLASS-text as did the children in the Better readers' group the qualitative nature of the errors was considerably different: more errors were UNACCEPTABLE, and the ACCEPTABLE and MARGINALLY ACCEPTABLE errors differed from those made by both the Better and Fair group children in as much as no 'textual effect' was evident.

Considering the small number of OMISSION errors made on the CLASS-text (22) and the fact that only 18 of the total sample of 52

children made this type of error any conclusions must be very tentative. However, one explanation for the apparent finding that certain 'good' (ACCEPTABLE or marginally acceptable) errors were related to textual features, and that this finding applied to the Better and Fair readers but not to the Poorer group children, might be related to the notion that readers with lower ability show more tendency to read in a word by word fashion and thus omit fewer words generally. This explanation would also be supported by the finding that much higher proportions of the Better readers' errors fell into the OMISSION category (on each type of text) than did those of the Poorer readers. However, this point will be considered in more detail in the next chapter where the pattern of errors on each type of text is summarised and compared.

Having categorised each of the OMISSION errors as ACCEPTABLE, marginally acceptable or unacceptable the final phase of the qualitative analysis of the errors made on the SELF and PEER-texts was concerned with investigating whether or not any of the individual children had consistently made errors which fell into just one of those categories, i.e. the question of whether or not the Poorer readers were more likely to make consistently unacceptable errors than the children in the Better and Fair group. However, this analysis was not really appropriate as far as the CLASS-text OMISSION data was concerned since 15 of the 18 children in question each made only 1 OMISSION error and the remaining 3 children each made just 2 errors.

### Summary of findings regarding OMISSION errors on the CLASS-text

The main findings relating to the OMISSION errors made by the children during the CLASS-text reading can be summarised as follows:

- \* 18 of the 52 children (35%) made a total of 22 OMISSION errors.  
Taking reading ability groups as a point of comparison the errors involved 6 readers from each of the Better, Fair and Poorer readers groups. (In percentage terms: 31% of the Better readers; 37.5% of the Fair readers and 35% of the Poorer readers made OMISSION errors.)
- \* Just over 31% of the OMISSION errors were judged to be UNACCEPTABLE in that they seriously disrupted the syntax and/or the semantics of the text. The majority of these (71%) were made by the Poorer readers.
- \* Taking the OMISSION errors as a proportion of the total errors made on the CLASS-text, for each ability group, revealed that Better readers made the highest proportion of OMISSIONS to their total error score (37.5%), Poorer readers the lowest (25.0%) and the corresponding percentage of the Fair readers fell in between (33%).
- \* A 'textual-features' effect was apparent in the OMISSION errors of the Better and Fair readers in respect of their ACCEPTABLE and MARGINALLY ACCEPTABLE errors in that the majority of these OMISSIONS occurred in two particular sentences of the passage. This effect was not apparent in the errors of the Poorer readers.

### Section 3: INSERTION errors on the CLASS-text

The proportional percentage of INSERTION errors to all errors on the CLASS-text was only 5.5%. The actual number of INSERTION errors which were observed was 34 and translated into errors per hundred words (ephw) this represented a value of only 0.14. However, this figure indicated a higher number of INSERTION errors per hundred words on the CLASS-text than the PEER-text (0.07 ephw) but was similar to the corresponding ephw score for the SELF-text (0.19).

Focussing on ability groups as a point of comparison revealed that the Poorer readers had been responsible for a far higher number of INSERTION errors (20) than the children in the Better and Fair groups who had each made a total of 7 errors. This meant that 59% of the total number of INSERTION errors observed during the reading of the CLASS-texts had been the responsibility of Poorer group readers although in percentage terms 14.8% of the Better readers' errors were INSERTIONS whilst the corresponding figures for the Fair and Poorer groups were 5.5% and 4.6% respectively.

When the CLASS-texts of the 52 children were examined it was apparent that 22 readers had actually made INSERTION errors during the oral reading performances. Of these children 6 were Better readers, 6 were Fair readers and 10 were members of the Poorer readers' group. Thus the initial quantitative analysis suggested that the Poorer readers were most likely to produce INSERTION errors - a finding which was compatible with the corresponding findings reported in previous chapters in connection with the incidence of INSERTION errors on the SELF and PEER-texts.

A closer examination of the 34 errors revealed that 19 (56%) could be regarded as ACCEPTABLE and that of the remaining 15 UNACCEPTABLE errors (44%) all but 1 error had been the responsibility of children in the Poorer readers' ability group. Table 13.3 below summarises these findings.

Table 13.3 ACCEPTABLE and UNACCEPTABLE INSERTION errors on the CLASS-text for each of the ability groups

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
ACCEPTABLE errors	7	6	6	19
UNACCEPTABLE errors	0	1	14	15
TOTALS	7	7	20	34

Whilst no statistical analysis could be performed on the data in Table 13.3 (the expected frequencies being too low to permit Chi-square) it was nevertheless apparent that in qualitative terms the INSERTION errors of the Poorer readers could be regarded as inferior to those of the Better and Fair group children - this was a finding which had not been obtained in respect of INSERTION errors on the SELF and PEER-texts where the errors of the Poorer readers had tended to be just as 'good' (i.e. ACCEPTABLE) as those of the children in the Better and Fair groups. Despite the small number of errors involved a possible conclusion which could be drawn from this finding was that the more 'conventional' CLASS-text had provoked a substantial increase in the occurrence of UNACCEPTABLE INSERTION errors made by children whose reading ages were amongst the lowest in the sample of 52 readers. However this conclusion will be reviewed in chapter 15 where



the INSERTION error data from the three types of text is reconsidered.

In reporting the incidence of INSERTION errors on the SELF and PEER-texts the number of such errors made in response to elision-forms ('I've'/don't) received some attention and the children's tendency to produce the full-forms ('I have'/'do not') for such contracted words was a particular feature of the SELF-text reading performances. It is worth mentioning in this connection that during the reading of the CLASS-text only 1 of the 34 INSERTION errors occurred in response to an elision form although a total of 10 such forms appeared in the text. Since a period of some months elapsed between the children's reading of the SELF-texts and their reading of the CLASS-texts it was not possible to tell whether or not this tendency to preserve elision-forms during the CLASS-text reading performances was simply due to the fact that the children had 'outgrown' this type of INSERTION error. However, a more interesting possibility, which might be tested empirically in some future study, was that elision-forms were preserved during the CLASS-text reading performances because they occurred in the context of reported speech and were therefore perceived as 'permissible'. In the SELF and PEER-texts, it will be remembered, the elision forms appeared in the context of a first-person narrative and it seemed possible that the tendency to produce full-forms ('I have'/'We have') was an attempt to formalise the texts and render them more like 'book language'. However, given the information available from the present study this interpretation can only be regarded as speculative.

Examples of the ACCEPTABLE and UNACCEPTABLE INSERTION errors observed during the reading of the CLASS-text are provided below.

ACCEPTABLE INSERTION errors

ALAN: (Better reader)

Somebody <sup>has</sup> ^ loosened them for sure

ROBERT: (Fair reader)

It's possible that someone <sup>is causing</sup> ^ ~~caused~~ the accidents

TRACEY: (Poorer reader)

"Sure", Officer Stone said, <sup>But</sup> ^ "Don't worry about it."

As the examples show the INSERTION errors could be judged to be ACCEPTABLE since they were not disruptive in terms of the semantics or the syntax of the sentences in which they occurred. In connection with the first example above (ALAN's INSERTION of the word 'has') it was interesting to note that the sentence concerned provoked the same response from 7 readers suggesting that a 'textual effect' was operating. ROBERT's error was also interesting in as much as it showed him substituting the word 'causing' for 'caused' in order to accommodate his INSERTION of the word 'is'. TRACEY's INSERTION of the word 'But' as a prefix to Officer Stone's comment, was judged ACCEPTABLE since, if anything, it added to rather than distracted from the intended meaning of the text.

Turning to the errors which were judged to be UNACCEPTABLE, all but one of which were made by Poorer readers, these appeared to fall into two categories: errors which altered the meaning of the text, and

errors which disrupted both the meaning and the syntax. An example of each type of error is provided below.

MARK W.: (Poorer reader)

Al thought the police should <sup>not</sup> ^ know about it.

MARK's INSERTION of the word 'not', though it was not syntactically disruptive, obviously changed the intended meaning of the text.

An error which disrupted both meaning and syntax occurred in the sentence which had also provoked several ACCEPTABLE INSERTION errors (see ALAN above).

MARK S.: (Poorer reader)

Somebody <sup>is</sup> ^ loosened them for sure.

#### Concluding comments on the INSERTION errors: CLASS-text

The most notable finding in connection with the 34 INSERTION errors which were observed during the reading of the CLASS-text was that whilst the Better readers made proportionally more of this type of error than did either of the Fair or Poorer group readers all their INSERTION errors were judged to be ACCEPTABLE. By contrast 70% of the INSERTION errors recorded for the Poorer group readers were UNACCEPTABLE - in fact all but 1 of the 15 UNACCEPTABLE errors which occurred were the responsibility of members of the Poorer group. These findings suggested that whilst the effects of INSERTION errors might be regarded as being of minimal importance for some children in

terms of their comprehension of the 'conventional' reading passage, differences in the 'quality' of the errors were quite marked. Presumably the disruption of the meaning of the passage which stemmed from a large proportion of the INSERTION errors made by the Poorer group readers would be likely to have had a deleterious effect on their overall understanding of the story. The finding that the Poorer readers showed a tendency to produce 'good' INSERTION errors on the SELF and PEER-text but a much higher proportion of 'bad' INSERTION errors on the CLASS-text will receive further consideration in Chapter 15 where patterns of error on the three types of text are reviewed.

The present chapter has focussed on the number and the nature of the REFUSAL, OMISSION and INSERTION errors which were observed during the children's reading of the CLASS-text and as such has paralleled Chapters 7 and 9 which reported the corresponding findings in connection with the SELF and PEER-texts. The following chapter focusses on the detailed analysis of the SUBSTITUTION errors which occurred on the CLASS-text and thus completes the reporting of the examination of the four categories of oral reading error distinguished on the three types of text used in the present study.

## CHAPTER 14

### THE QUALITATIVE ANALYSIS OF THE SUBSTITUTION ERRORS OBSERVED DURING THE CHILDREN'S READING OF THE CLASS-TEXT AND COMBINED AND SINGLE-SOURCE ERRORS ON THE THREE TYPES OF TEXT

This chapter completes the initial 'picture' of the children's oral reading errors on the three types of text by focussing upon the detailed analysis of the SUBSTITUTION errors which occurred during the reading of the CLASS-text. The chapter also includes a consideration of the SINGLE-SOURCE and COMBINED-SOURCE errors which occurred on the SELF, PEER and CLASS-texts.

A total of 539 SUBSTITUTION errors were recorded on this 'conventional' text and these accounted for 88.1% of the errors observed. The analysis of the errors followed the pattern reported in previous chapters where the SUBSTITUTION errors observed during the reading of the SELF and PEER-texts were described. The first stage of the analysis was, therefore, concerned with the identification and description of 'non-word' errors.

#### Section 1: NON-WORD errors on the CLASS-text

A total of 19 errors fell into the category of non-word SUBSTITUTION errors and an examination of the CLASS-text scripts showed that 13 readers were responsible. None of these children were Better readers whilst 6 Fair readers and 7 Poorer readers made this type of error. Table 14.1 below summarises these findings.

Table 14.1 The number of NON-WORD SUBSTITUTION errors and the number of readers involved in each of the three ability groups: CLASS-text.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
number of NON-WORDS observed	0	7	12	19
number of readers involved	0	6	7	13

In percentage terms the NON-WORD errors accounted for 3.5% of all the SUBSTITUTION errors observed on the CLASS-text. A comparison of the proportions of NON-WORDS produced on the SELF, PEER and CLASS-text is included in the next chapter but it is perhaps worth noting here that this type of error represented only 1.5% of all SUBSTITUTION errors on the SELF-text and involved only 5 readers, whereas the corresponding percentage was much larger for the PEER-text (6%) as were the number of children involved (16).

No statistical analysis of the data shown in Table 14.1 above was possible but it was very clear that Fair and Poorer groups were approximately equally likely to have responded with NON-WORDS whilst no errors of this type were recorded for the individuals in the Better readers' group. The whole corpus of NON-WORD errors and their corresponding target words is presented in Table 14.2 below.

Table 14.2 NON-WORDS produced during the CLASS-text reading performances.

	CHILD	NON-WORD	TARGET WORD
BETTER READERS	(no non-words produced by Better readers)		
FAIR READERS			
	LEIGH	Eldordo	Eldorado
	MARK	Eldorada	Eldorado
	PETER	Eldoro	Eldorado
	MELANIE	Eldora	Eldorado
	SARAH	Eldono	Eldorado
	THERESA	Eldoro	Eldorado
	"	clooze	close
TOTAL	(6 READERS)	(7 NON-WORDS)	
POORER READERS			
	BRIAN	cussing	causing
	"	Edo	Eldorado
	IAN	Elbodo	Eldorado
	JASON	Eldoro	Eldorado
	"	hooseclub	clubhouse
	MARK	Eldorana	Eldorado
	"	fy-ny	finally
	JOANNE	grav	gave
	LISA	coasing	causing
	ROSE	prot	possible
	"	plan-ned	planned
	ROSE	plan-ned	planned
TOTAL	(7 READERS)	(12 NON-WORDS)	

As Table 14.2 shows all the NON-WORDS had a marked graphic similarity to the target words in as much as all but 1 error (JASON'S 'hoooseclub' for 'clubhouse') had its initial letter in common with that of the target word. Additionally, all but 6 of the NON-WORDS had final letters in common with those of the target words.

However, as the table shows, the most notable finding in respect of the NON-WORDS produced on the CLASS-text was concerned with the apparent problem posed by the target word 'Eldorado'. An examination of the data concerned revealed that no less than 8 different versions of this word were produced:

Eldordo  
Eldorada  
Eldoro  
Eldora  
Eldono  
Edo  
Elbodo  
Elorana

Furthermore, this target word was responsible for provoking 10 of the total number of 19 NON-WORD responses. The initial impression from the data in Table 14.2 was that 'Eldorado' caused more problems for Fair readers than for Poorer readers, i.e. 6 Fair 'versions' as opposed to the 4 from the Poorer readers, but an examination of the REFUSAL errors on the CLASS-text (see Chapter 13) had shown that this target word had prompted 4 REFUSAL errors from Poorer readers whilst no Fair (or Better) readers had failed to attempt it. There was then a very clear textual effect in operation as regards NON-WORDS on the CLASS-text and this centred around a word which, presumably, was completely outside the readers' vocabulary in terms of its being a proper name with which they were unfamiliar. It is worth noting here that all but 1 of the Fair readers' NON-WORDS were made in response to 'Eldorado' and that if this particular word had not appeared in



the text, the pattern of the NON-WORD data across the ability groups would thus have been quite different. This clear textual effect points to the benefits to be gained by readers of low ability from a teacher's prior identification and discussion of such potentially unfamiliar place-names. Although the question was not addressed by the present author, it would have been interesting to discover how many of the children - irrespective of whether they read 'Eldorado' correctly or otherwise - were actually aware of the kind of information it conveyed about 'Officer Stone', i.e. did children realise that an 'Eldorado policeman' came from a district called 'Eldorado' or was the word perceived as some general descriptive term - e.g. 'A tall policeman', 'an old policeman' ('An Eldorado policeman'.)

Focussing more closely on the ability groups, and leaving aside the 'Eldorado' errors, it can be seen that whilst the number of Fair and Poorer group children giving NON-WORDS responses was approximately the same, Poorer group children produced 12 of the NON-WORDS as opposed to the Fair group's total of 7, and that some of these were responses to what must be regarded as fairly familiar words (e.g. 'causing', 'gave', 'planned'). As was noted above, all the NON-WORDS produced in response to such words had a remarkable graphic similarity to the corresponding target words. This being the case, it seemed likely that the Poorer group children involved were focussing on the graphic (rather than the contextual) cues provided by the text, and that for these children at least, any problems stemming from the semantic difficulties involved in the 'cold' reading of CLASS-text seemed likely to have been exacerbated by their relatively poor ability in graphic decoding.

Section 2: The GENERAL graphic similarity and semantic and syntactic acceptability of SUBSTITUTION errors on the CLASS-text

An overview of the GENERAL or 'gross' graphic similarity of the SUBSTITUTION errors with the corresponding target words, and their GENERAL semantic and syntactic acceptability is provided in this section. Table 14.3 below illustrates the percentage of errors which had some element of similarity/acceptability whilst a more detailed account of the children's apparent use of graphic, semantic and syntactic cues is provided in Section 3.

Table 14.3 The percentages of SUBSTITUTIONS with some element of graphic similarity and semantic and syntactic acceptability: CLASS-text.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
some GRAPHIC SIMILARITY	97.0	99.0	97.0	97.0
some SEMANTIC ACCEPTABILITY	100.0	92.0	87.0*	89.0
some SYNTACTIC ACCEPTABILITY	100.0	96.0	93.0	94.0

\* A Chi-square calculation showed the only statistically significant variation across the three ability groups was concerned with the general SEMANTIC ACCEPTABILITY of the errors. ( $\chi^2 = 7.07$ ; d.f.2  $p < 0.05$ ).

As Table 14.3 suggests, the readers appeared to have made very good use of all three types of cues provided by the text when the data were subjected to the initial 'crude' analysis although the semantic acceptability of the Poorer readers' errors was relatively low by comparison with that of the other children. It is worth mentioning here that the general GRAPHIC SIMILARITY percentages in particular were a good deal higher (for each of the three ability groups) than those which had been calculated for either the SELF or the PEER-texts - a point which will be discussed in the following chapter.

### Section 3: The detailed analysis of the use of graphic, semantic and syntactic cues in producing SUBSTITUTION errors on the CLASS-text

#### **1. The use of GRAPHIC cues: BEGINNING, MIDDLE and ENDING similarity**

Having examined the general levels of graphic similarity the next stage of the analysis was concerned with the more detailed examination of the SUBSTITUTION errors in order to discover the extent of their BEGINNING, MIDDLE and ENDING similarity with the corresponding target words. The corresponding analysis performed on the SUBSTITUTION errors observed during the children's reading of the SELF and PEER-texts had given a clear indication that readers in each of the three ability groups appeared to pay least attention to the graphic cues offered by the final letters of the target words. It remained to be discovered whether or not this pattern of response had occurred during the CLASS-text reading performances. If this did prove to be the case, it would add further support to the notion that the sample of Secondary school remedial readers who took part in the present study were responding to graphic cues in a way which was atypical when compared with response patterns observed by previous oral reading error researchers studying younger (and more 'average') readers (See Chapter 8 above for a discussion of this point in connection with the SELF-text SUBSTITUTION errors.)

Table 14.4 below shows the percentage of SUBSTITUTION errors which had BEGINNING, MIDDLE and ENDING graphic similarity with the corresponding target words.

Table 14.4 The percentages of SUBSTITUTIONS with BEGINNING, MIDDLE and ENDING graphic similarity with the CLASS-text target words.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
BEGINNING similarity	74.0	79.0	81.0	80.0
MIDDLE similarity	89.0	93.0	76.0*	80.0
ENDING similarity	28.0	45.0	34.0	36.0

\* A Chi-square calculation showed a statistically significant variation in the proportions of errors with MIDDLE similarity across the three ability groups ( $\chi^2 = 16.12$ ; d.f.2;  $p < 0.001$ ).

The main finding illustrated by Table 14.4 is the clear distinction between the (overall) percentages of SUBSTITUTION errors which had BEGINNING and MIDDLE similarity (80%) and the much lower percentage which showed final letter or ENDING similarity (36%). The finding that the least graphic similarity was apparent in connection with the final letters of the target words was consistent with the results already reported in respect of the SELF and PEER-texts. It is worth noting here though that the finding that the same percentages of the SUBSTITUTION errors (overall) had BEGINNING and MIDDLE graphic similarity with the target words in question was a 'new' feature of the children's errors which was confined to the CLASS-text data. The SELF and PEER-text errors had both revealed much more graphic similarity in terms of BEGINNING rather than MIDDLE letters. However, further discussion of this finding is delayed until the following chapter where errors on the three types of text are discussed.

Focussing on the reading ability groups as a point of comparison, the main finding, that the SUBSTITUTIONS were least graphically similar to the target words in terms of their final

Letters, is borne out by the data although the complete between-group picture shows a somewhat confusing pattern i.e. Fair readers did best in terms of MIDDLE and ENDING similarity whilst the Poorer readers' errors showed the highest percentage for BEGINNING similarity. In fact, the only pattern of graphic similarity which was consistent with the findings reported in respect of the SELF and PEER-texts related to BEGINNING similarity where Better readers had consistently produced the lowest percentage of SUBSTITUTION errors which had initial letters in common with the target words in question. Despite this somewhat confusing pattern of response regarding ability groups, the main finding - that the final letters of the SUBSTITUTION errors were the least likely to be the same as the final letters of the target words - held true for all three ability groups and could be assumed to have had a particularly deleterious effect on reading accuracy. In an attempt to illustrate this problem as it related to the children's reading of the SELF-texts, Chapter 8 focussed on two Poorer readers, TRACEY and EDWARD, whilst Chapter 11, reporting the corresponding PEER-text data, presented examples of the SUBSTITUTION errors of two Fair readers, THERESA and ROBERT. This pattern of illustration can now be completed by focussing on the errors of two Better readers, MICHELLE and LEE.

### MICHELLE

MICHELLE was a member of the Better readers' group and was one of the children who was based in a 'Main Stream' class where she received no 'formal' remedial help but was 'kept an eye on' by her English teacher, since it was known that she had a lower reading age than most of her class-mates. At the time of reading the CLASS-text

MICHELLE had a reading age of 10 years 9 months (Schone11) whilst her actual age was 12.0 years. She thus had a real age/reading age discrepancy score of -15 months and was typical of the Better readers' group in this respect (mean discrepancy -15; s.d. 5.3). MICHELLE's error per hundred words score on the CLASS-text was 2.5 and she actually made 10 errors, all of which were SUBSTITUTIONS. MICHELLE's errors, along with the corresponding target words are shown in Table 14.5 below.

Table 14.5 MICHELLE'S SUBSTITUTION errors illustrating the general lack of graphic ENDING similarity.

READER	TARGET WORD	SUBSTITUTION
MICHELLE	thought	'though'
	could	'would' *
	something	'someone'
	the	'their'
	ones	'one'
	Al	'Ali'
	Al	'Ali'
	Al	'Ali'
	Al	'Ali'

\* graphic 'ending' similarity.

As the table shows only 1 (10%) of the substituted words had its final letter in common with that of the target word. By contrast,<sup>9</sup> (90%) had initial letters in common with those of the target words and for the 6 target words which could be said to have 'middle' letters (the 4 examples of Al being excluded) all the substituted words had letters in common.

## LEE

Lee was also a member of the Better readers group and was based in a 'Main Stream' class but unlike MICHELLE was 'on extraction' for

twice-weekly visits to the Remedial Department where he received specialist help with reading. At the time of reading the CLASS-text his reading age (Schonell) was 10 years 3 months and his chronological age 11 years 11 months. He thus had a real age/reading age discrepancy score of -20 months. LEE's error per hundred words score on the CLASS-text was 2.0 and he made a total of 8 errors. Five of these were SUBSTITUTIONS, 2 were OMISSIONS and 1 was an INSERTION error. LEE's SUBSTITUTION errors, with their corresponding target words are presented in Table 14.6 below.

Table 14.6 LEE's SUBSTITUTION errors: illustrating the general lack of graphic ENDING similarity.

READER	TARGET WORD	SUBSTITUTION
LEE	an	'and'
	after	'often'
	clubhouse	'club'
	bike	'bikes'
	whoever	'however'*

\* graphic 'ending' similarity.

As the table shows only 1 (20%) of LEE's SUBSTITUTION errors had its final letter in common with that of the target word, whereas 3 of the 5 (60%) had initial letters in common and all had some 'middle letters' similarity.

The SUBSTITUTION errors of MICHELLE and LEE, like those of THERESA and ROBERT (Fair readers on the PEER-texts) and TRACEY and EDWARD (Poorer readers on the SELF-texts) illustrated the children's lack of attention to the graphic cues provided by the final letters of the target words. As the relevant examples show this general lack of final letter similarity seemed unlikely to be due to a lack of phonics knowledge - none of the target words had irregular

sound/letter-correspondence endings. Thus the general point which emerged from the examination of SUBSTITUTION errors and the use made of the salient graphic cues provided by the final letters of the target words, was that readers were unwilling rather than unable to make use of them.

2. The use of semantic cues: the WITHIN PASSAGE and WITHIN SENTENCE acceptability of the SUBSTITUTION errors on the CLASS-text and the successful use of the PRECEDING and SUCCEEDING linguistic context.

It was reported above that the overall percentage of the children's SUBSTITUTION errors which had some element of semantic acceptability was 89% and that the corresponding breakdown of this figure in terms of the three reading ability groups was: Better readers 100%, Fair readers 92% and Poorer readers 87%. Thus when the four levels of analysis of semantic acceptability ('passage', 'sentence', 'preceding context', or 'succeeding context') were 'lumped together' to form a general percentage figure, a clear-cut pattern was apparent in the data with the errors of the Better readers being the most acceptable and those of the Poorer readers showing the least acceptability. (The relevant Chi-square calculation was statistically significant at  $p < 0.05$  as reported above).

However, the semantic acceptability data was examined further in order to gain a more detailed picture of the children's ability to make use of contextual cues. The relevant data are shown in Table 14.7 below.



Table 14.7 The percentages of SUBSTITUTIONS semantically acceptable the WITHIN PASSAGE, WITHIN SENTENCE, PRECEDING and SUCCEEDING levels of analysis: CLASS-text.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
within PASSAGE	49.0	26.0	20.0	23.0
within SENTENCE	87.0	67.0	53.0	59.0
with PRECEDING context	100.0	88.0	83.0	85.0
with SUCCEEDING context	100.0	86.0	77.0	81.0

A series of Chi-square calculations revealed statistically significant variations existed across the ability group data at each of the four levels of analysis:

within PASSAGE -  $\chi^2 = 17.48$ ; d.f.2;  $p < 0.001$

within SENTENCE -  $\chi^2 = 21.22$ ; d.f.2;  $p < 0.001$

with PRECEDING -  $\chi^2 = 6.71$ ; d.f.2;  $p < 0.005$

with SUCCEEDING -  $\chi^2 = 13.77$ ; d.f.2;  $p < 0.001$

#### Semantic acceptability WITHIN PASSAGE : CLASS-text

As Table 14.7 shows only 23% of the SUBSTITUTION errors (overall) were judged to be semantically acceptable at the all important WITHIN PASSAGE level. (The corresponding overall percentages for the SELF and PEER-texts were 64% and 43% respectively). This extremely low WITHIN PASSAGE level of semantic acceptability, it could be assumed, would indicate that the level of

comprehension of the intended meaning of the CLASS-text passage was very poor. (No actual test of the comprehension of the texts was attempted in the present author's study and, with hindsight, this was an unfortunate omission). However, as Table 14.7 indicates, the Better readers' WITHIN PASSAGE percentage was considerably higher than that of the Fair and Poorer readers, indicating that for this group at least, the probable understanding of the CLASS-text events was less bleak. Nevertheless, considering that the CLASS-text excerpt was taken from a book which was shortly to be used as a 'class-reader' in the Remedial Department, the finding that such large proportions of the SUBSTITUTION errors of the Fair and Poorer readers were incompatible with the intended meaning of the author was somewhat disturbing. It seemed likely that unless the text was to be thoroughly introduced by the teacher, the 'gist' given, and some of the more unfamiliar words (particularly the proper nouns) explained, the children were unlikely to have any real idea of the story-line.

It is perhaps worth mentioning in this connection that the SUBSTITUTION errors included in the analysis were not 'self-corrected' by the readers concerned and this suggests that it would be necessary (in the intended 'reading-around-the-class' situation) for the teacher to interrupt/correct a reader quite often in order to preserve the meaning of the text at the PASSAGE level - even though a child's error might involve no lack of fluency and no semantic or syntactic problems at the SENTENCE level. Some examples of the children's errors will serve to illustrate this point.

DARYLL

"After Officer Stone left <sup>he</sup> ~~they~~ talked about what they could do next".

CRAIG

He looks like  
"Hey, look at this", she said.

EDWARD

Soon  
"Sure", Officer Stone said.

MELANIE

<sup>if it's</sup>  
"And find it soon," Shari said.

The examples above (all taken from Poorer readers) suggest that many interruptions of fluent reading would have been necessary in order to preserve the storyline of the text for the benefit of a listening audience who, in a typical 'class-reader' situation would be waiting for their 'turn' to read aloud. Indeed it seems doubtful whether such interruptions would have had the intended effect - an argument which (although it goes beyond the evidence presented in the present study) suggests that the intended use of the CLASS-text passage might have been of dubious value for all concerned.

In summary, it was apparent from the WITHIN PASSAGE acceptability of the children's SUBSTITUTION errors on the CLASS-text that less than 25% of the substituted words (overall) preserved the

essential meaning of the text and that this figure rose to only 49% when the errors of only the Better readers were considered.

Nevertheless, as the examples quoted above indicate, the children were by no means unable to make use of semantic cues in as much as their errors were far less likely to be unacceptable when only the WITHIN SENTENCE acceptability was considered.

#### Semantic acceptability WITHIN SENTENCE : CLASS-text

59% of the children's SUBSTITUTION errors (overall) were semantically acceptable at the WITHIN SENTENCE level. This represented a 36% (overall) increase as compared to the WITHIN PASSAGE acceptability levels described above. This finding, like the corresponding finding in respect of the SELF and PEER-texts, thus provided good evidence that the children were much more adept at making use of the semantic cues provided by the text than would have been apparent if only the WITHIN PASSAGE level had been considered.

Focussing on ability groups, the WITHIN SENTENCE data showed that the general increase in semantic acceptability (PASSAGE vs SENTENCE) held true for each of the groups and that the magnitude of the difference between the two levels of acceptability was not too dissimilar for each group. However, as stated above, the variation in the proportion of semantically acceptable errors across the ability groups was shown to be statistically significant ( $p < 0.001$ ) and as the data show, a much higher percentage (87%) of the Better readers' errors showed the successful use of semantic cues at the WITHIN SENTENCE level than did those of the Poorer readers (53%).

Semantic acceptability with PRECEDING and SUCCEEDING context:  
CLASS-text

As Table 14.7 shows there appeared to be very little difference (overall) in the children's successful use of PRECEDING and SUCCEEDING semantic cues: 85% of the errors were acceptable at the PRECEDING context level of analysis and 81% at the SUCCEEDING context level. However, a main feature of all the data was the finding that 100% of the Better readers' errors were judged to be semantically acceptable at both levels of analysis and that the ability/acceptability pattern was consistent with that reported above concerning WITHIN PASSAGE and WITHIN SENTENCE analyses. The variations in the proportions of errors judged to be acceptable were shown to be statistically significant at  $p < 0.05$  and at  $p < 0.01$  for PRECEDING and SUCCEEDING context respectively. Taking into account all three ability groups and both levels of acceptability, the largest difference observed was between Poorer readers at the SUCCEEDING context level (100% acceptable as opposed to 77%). Generally speaking, however, there was very good evidence to suggest that the readers were capable of utilising the semantic cues which occurred in the immediate context of the target word in question. This general finding was compatible with the findings reported earlier concerning the SELF and PEER-texts and also reflected the findings of previous researchers (see Chapter 2) studying younger and more average readers.

**3. The use of syntactic cues: The WITHIN PASSAGE/SENTENCE acceptability of the SUBSTITUTION errors on the CLASS-text and their acceptability with PRECEDING and SUCCEEDING context**

As Table 14.3 illustrated the 'general' level of the syntactic acceptability of the children's SUBSTITUTION errors was very high: 94% overall, and reflected the similarly high levels reported

concerning errors on the SELF and PEER-texts (97% and 92% respectively). However, this general acceptability figure pooled the WITHIN SENTENCE/PASSAGE, PRECEDING and SUCCEEDING levels of analysis. Table 14.8 below presents the data obtained when these three levels of acceptability were considered separately.

Table 14.8 The percentages of SUBSTITUTIONS syntactically acceptable at the WITHIN PASSAGE/SENTENCE, PRECEDING and SUCCEEDING levels of analysis: CLASS-text.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
within PASSAGE/SENTENCE	85.0	73.0	58.0	63.0
with PRECEDING context	100.0	94.0	88.0	90.0
with SUCCEEDING context	100.0	91.0	81.0	84.0

A series of Chi-square calculations revealed statistically significant variations in the proportions of acceptable errors across the three ability groups at each level of analysis:

within PASSAGE/SENTENCE -  $\chi^2 = 17.47$ ; d.f.2;  $p < 0.001$

with PRECEDING context -  $\chi^2 = 6.47$ ; d.f.2;  $p < 0.05$

with SUCCEEDING context -  $\chi^2 = 13.00$ ; d.f.2;  $p < 0.01$

There were thus two main findings regarding the syntactic acceptability of the SUBSTITUTION errors on the CLASS-text. First of all it was evident that the overall pattern of syntactic acceptability reflected that reported above in respect of semantic acceptability, i.e. a much lower proportion of the errors were judged to be acceptable at the WITHIN PASSAGE/SENTENCE level than at

the levels of PRECEDING and SUCCEEDING context. Secondly there was the clear finding that the trend apparent in the ability group data with respect to semantic acceptability (Better readers making the highest proportion of acceptable errors - Poorer readers the lowest) was also apparent in the syntactic acceptability data.

#### Section 4: SINGLE-SOURCE and COMBINED-SOURCE SUBSTITUTION errors on the CLASS-text.

The final stage of the analysis of the SUBSTITUTION errors observed on the CLASS-text was concerned with the question of the apparent sources of contextual cues ('graphic', 'contextual' or 'combined sources') used by the children in producing the substituted words. The rationale behind the analysis was explained in Chapter 5 and it was argued that the more proficient the reader the more one would expect to identify the use of COMBINED-SOURCE rather than SINGLE-SOURCE textual information. However, the data from the SELF and PEER-texts gave no support for this notion: the SELF-text data showed Poorer readers had made the most SOURCE-errors, whilst the percentages of COMBINED-SOURCE errors on the PEER-text for each of the three ability groups were very similar to each other. These findings ran contrary to the notions of researchers such as Biemiller (1970) Murray and Maliphant (1982) and Potter (1983) who have suggested that more able readers tend to be more flexible in terms of using both the graphic and contextual information from the text (i.e. rather than focussing on one source and thus making a higher proportion of 'SINGLE-SOURCE' errors). However, none of the researchers mentioned above have studied older remedial readers. Nor have they used the method of analysis designed by the present author in an attempt to investigate this question. This being so, comparisons between existing findings and the findings of the present

In order to complete the picture of the children's use of COMBINED and SINGLE-SOURCE cues one final phase of analysis of the SUBSTITUTION errors was necessary. This was directed towards the question of whether or not the small percentage of SINGLE-SOURCE errors which had been recorded were made up of a higher proportion of SINGLE-SOURCE-graphic or SINGLE-SOURCE-contextual errors. Table 14.10 below provides the relevant data.

Table 14.10 SINGLE-SOURCE SUBSTITUTION errors on the CLASS-text: percentages of 'graphic' and 'contextual' errors.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
GRAPHIC errors	0.0	80.0	55.0	56.0
CONTEXTUAL errors	100.0	20.0	45.0	44.0
TOTAL	100.0	100.0	100.0	100.0

Table 14.10 indicates that the overall percentages of SINGLE-SOURCE-graphic and SINGLE-SOURCE-contextual errors were quite similar - a finding which stood in sharp contrast to the findings of the corresponding analysis of the SINGLE-SOURCE errors on the SELF and PEER-texts where 'contextual' errors had far out-numbered 'graphic' errors. (Only 5% of the errors on the SELF-texts indicated the sole use of graphic information whilst the corresponding figure for the PEER-texts was 28%). It was thus evident that the children, as a group, seemed much more likely to produce SUBSTITUTION errors which were graphically constrained during the reading of the 'conventional' CLASS-text - a point which will be considered below. However, it was also evident when the CLASS-text data were considered in terms of ability groups, that very marked differences in the



study were difficult and it was hoped that the analysis of the CLASS-text SUBSTITUTION errors would throw further light on the matter of the source of textual information involved when readers produced a substituted word for the target word.

Table 14.9 provides the data regarding the percentages of COMBINED as opposed to SINGLE-SOURCE errors. The criteria upon which the errors were classified into one or other of these two categories is detailed in Chapter 5 where examples of SINGLE-SOURCE-graphic, SINGLE-SOURCE- contextual, and COMBINED-SOURCE errors are provided.

Table 14.9    The percentages of COMBINED-SOURCE and SINGLE-SOURCE SUBSTITUTION errors for each of the reading ability groups: CLASS-text.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
COMBINED-SOURCE errors	97.0	95.0	91.0	92.0
SINGLE-SOURCE errors	3.0	5.0	9.0	8.0
TOTALS	100.0	100.0	100.0	100.0

A Chi-square calculation showed no statistically significant variation in the proportions of COMBINED and SINGLE-SOURCE errors across the three ability groups ( $\chi^2 = 4.17$ ; d.f.2; N.S.). There was thus no clear-cut support for the notion that Better readers might be more likely to produce the highest percentage of errors which indicated a synthesis of graphic and contextual cues. However, as the data in Table 14.9 show 97% of the Better readers' errors were COMBINED-SOURCE errors as opposed to 95% and 91% of the errors of the Fair and Poorer readers respectively - a pattern which (although not statistically significant) was at least consistent with the findings of the researchers mentioned above.

percentages of 'graphic' and 'contextual' errors were apparent i.e. the Better readers made no SINGLE-SOURCE-graphic errors as opposed to corresponding percentages of 80% and 55% for the Fair and Poorer group children respectively. (Unfortunately no statistical analysis of this data was possible although the zero percentage recorded for the Better readers speaks for itself). Bearing this finding in mind it was very obvious that generalisations about the incidence of errors which appeared to indicate a preference for the use of 'graphic' as opposed to 'contextual' cues would be inappropriate unless reading ability as well as text-type was taken into account. Moreover, the findings regarding the percentages of COMBINED-SOURCE as opposed to SINGLE-SOURCE errors observed on each of the SELF, PEER and CLASS-texts painted a somewhat confusing picture - the only clear finding being that the percentage of COMBINED-SOURCE errors far outweighed the percentage of SINGLE-SOURCE errors observed overall. For the sake of convenience it thus seems appropriate to review the evidence regarding these aspects of the SUBSTITUTION error data in the present chapter rather than delay its discussion until the following chapter, where more general points concerning error-patterns on the three types of texts are considered.

#### Section 5: SINGLE-SOURCE and COMBINED-SOURCE SUBSTITUTION errors on the three types of text and for the three ability groups

In reviewing the evidence regarding the sources of textual information apparent in the production of SUBSTITUTION errors on the three types of text the first line of enquiry was concerned with the question of whether or not the relevant data indicated that the majority of errors involved the use of a SINGLE-SOURCE of textual information (i.e. either graphic or contextual) or of the COMBINED use of both graphic and contextual cues. Table 14.11 below

summarises the findings.

Table 14.11 The percentages of SINGLE-SOURCE and COMBINED-SOURCE SUBSTITUTION errors on the SELF, PEER and CLASS-texts.

	SELF text	PEER text	CLASS text	ALL text
COMBINED-SOURCE errors	76.0	78.0	92.0	83.0
SINGLE-SOURCE errors	24.0	22.0	8.0	17.0
TOTALS	100.0	100.0	100.0	100.0

As the (ALL-text) data in Table 14.11 indicate there was a very clear-cut finding that the majority of the children's SUBSTITUTION errors involved the COMBINED use of graphic and contextual information. A Chi-square calculation revealed that the variation in the proportions of COMBIBNED and SINGLE-SOURCE errors across the three types of text was statistically significant ( $\chi^2 = 54.70$ ; d.f.2;  $p < 0.001$ ). However, as the percentage data show, the children, (as a whole group) appeared much less likely to have produced SINGLE-SOURCE errors on the CLASS-text than on the SELF or PEER-texts. This suggested that when the readers were presented with the 'conventional' text there was a greater tendency to attend to both graphic and contextual cues.

A second line of enquiry was to consider whether or not the Better, Fair and Poorer reading ability, groups differed in terms of the percentages of SINGLE-SOURCE and COMBINED-SOURCE errors. Table 14.12 provides the relevant data.

Table 14.12    The percentages of SINGLE-SOURCE and COMBINED-SOURCE SUBSTITUTION errors for each of the three ability groups (texts pooled).

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
COMBINED-SOURCE errors	79.0	80.0	85.0	83.0
SINGLE-SOURCE errors	21.0	20.0	15.0	17.0
TOTALS	100.0	100.0	100.0	100.0

As the data in Table 14.12 indicate the smallest proportion of SINGLE-SOURCE errors (15%) were made by the children in the Poorer readers' ability group. A Chi-square calculation showed the variation in the proportions of SINGLE and COMBINED-SOURCE errors across the three ability groups to be statistically significant ( $\chi^2 = 6.22$ ; d.f.2;  $p < 0.05$ ). There was thus no evidence in the study conducted by the present author to show that the Poorer readers amongst the group of 52 children were less likely to attempt to synthesise graphic and contextual cues - on the contrary - the information which was available from the analysis of their SUBSTITUTION errors (a total of 1265 errors) suggested that the children whose reading ages were amongst the lowest in the group of 52 were the least likely to have relied solely on either graphic or contextual cues in the production of their errors. Nevertheless, this finding was largely a function of the Poorer readers' performance during the reading of their self-generated texts where the proportion of COMBINED-SOURCE errors for this group (83%) was considerably larger than that of the Better and Fair group children (64% and 59% respectively). The percentages of errors showing the possible use of COMBINED-SOURCES of information on the PEER and CLASS-texts were much more similar across the three ability groups. Thus if the production of a high percentage of COMBINED as opposed to

SINGLE-SOURCE errors is considered to be a reading 'strength' a partial explanation of the finding that the Poorer group children did best overall in this respect might be that the readers with the lowest reading ability were able to benefit most from the accessibility of the self-generated texts whilst their COMBINED-SOURCE error percentages in respect of the PEER and CLASS-texts were very similar to those recorded for the children with higher reading ages. However, it must be acknowledged that, as Potter (1982) has pointed out, and as has already been emphasised by the present author in previous chapters, there is no 'real' way of knowing whether or not a reader who produces a COMBINED-SOURCE error has in fact made use of both sources of textual information. The finding that a SUBSTITUTION error is both graphically similar to the target word in question, and semantically/syntactically appropriate can only be taken as an indication that these two sources of textual cues could have been used concurrently and not as a indication that this was the case. For these reasons any conclusions regarding COMBINED-SOURCE as opposed to SINGLE-SOURCE errors must be viewed as speculative.

Nevertheless, given that a small percentage of SINGLE-SOURCE errors had been identified during the children's reading of the SELF, PEER and CLASS-texts it was of interest to discover the proportions of these errors which appeared to be graphically rather than contextually constrained. Thus a third line of investigation concerning the COMBINED and SINGLE-SOURCE SUBSTITUTION data was concerned with the question of whether or not the majority of the SINGLE-SOURCE errors indicated the sole use of graphic cues or the sole use of contextual cues when the data from the three type of texts were pooled. Table 14.13 below shows very clearly that by far

the largest proportion of the SUBSTITUTION errors (texts pooled) were contextually constrained - in other words there was little overall evidence to suggest that the remedial readers involved in this study were prone to concentrate on graphic cues at the expense of ignoring 'meaning'. However, if reading performances had been confined to an analysis of SUBSTITUTION errors on a 'conventional' text this picture of the readers' use of contextual, as opposed to graphic cues, would have been quite different.

Table 14.13 SINGLE-SOURCE SUBSTITUTION errors on the SELF, PEER and CLASS-texts: Percentages of 'graphic' and 'contextual' errors.

	SELF text	PEER text	CLASS text	ALL text
GRAPHIC errors	5.0	28.0	56.0	25.0
CONTEXTUAL errors	95.0	72.0	44.0	75.0
TOTALS	100.0	100.0	100.0	100.0

A Chi-square calculation showed the variation in the proportions of SINGLE-SOURCE-graphic and SINGLE-SOURCE contextual errors across the three types of text to be statistically significant ( $\chi^2 = 38.46$ ; d.f.2;  $p < 0.001$ ). This finding might be interpreted to suggest that any tendency of the children to allow graphic cues to over-ride contextual cues was much less likely to occur on the self-generated texts than on the PEER and CLASS-texts - a finding which was compatible with the notion that the SELF-texts, being most 'accessible' to the readers in terms of their content and vocabulary would best allow the use of contextual cues. However, although this pattern of response could be identified when the children were considered as a group of 52 remedial readers, it was also apparent

that the children's pattern of response differed markedly when reading ability was taken into account. For example, the Better group readers made no graphically constrained SINGLE-SOURCE errors on either the SELF or the CLASS-texts and only 6% of their errors were of this type on the PEER-text (as opposed to 32% and 33% for the Fair and Poorer group children respectively). This feature of the SINGLE-SOURCE error data is best illustrated by the pooling of the SINGLE-SOURCE-graphic and SINGLE-SOURCE-contextual errors on each of the three texts for each of the three ability groups. Table 14.14 below presents the relevant information.

Table 14.14 SINGLE-SOURCE errors (texts pooled): the percentages of 'graphic' and 'contextual' errors for each of the three ability groups.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
GRAPHIC errors	3.0	24.0	32.0	25.0
CONTEXTUAL errors	97.0	76.0	68.0	75.0
TOTALS	100.0	100.0	100.0	100.0

A Chi-square calculation (raw data) showed the variation in the proportions of 'graphic' as opposed to 'contextual' errors across the three ability groups to be statistically significant ( $\chi^2 = 11.41$ ; d.f. 2;  $p < 0.01$ ).

Summing up the findings regarding the analysis of the SUBSTITUTION errors in terms of the information they provided regarding the children's ability to synthesise the graphic and contextual sources of information provided by the three texts, three main findings emerged.

First of all it was very clear that by far the largest majority of the SUBSTITUTION errors (83%) showed the (probable) use of COMBINED sources of information but that a higher percentage of these errors (92%) occurred on the CLASS-text than on the SELF and PEER-texts (76% and 78% respectively). There was no evidence to suggest that the children with the lowest reading ages in the group of 52 children made the most SINGLE-SOURCE errors although this finding was largely a function of their performances on the SELF-texts where their tendency to produce SUBSTITUTION errors which indicated the (probable) concurrent use of graphic and contextual cues was actually greater than that of the readers in the Better and Fair ability groups.

A second clear finding was that children in each of the three ability groups, during the reading of each type of text, produced some SUBSTITUTION errors which indicated the sole use of either graphic or contextual cues. However, by far the largest proportion of these SINGLE-SOURCE errors (75%) showed the use of contextual rather than graphic information. There was thus little evidence to suggest that the readers were predisposed to allow graphic information to over-ride semantic information. Nevertheless, it was evident that the SUBSTITUTION errors which occurred on the CLASS-text were more or less equally divided between the SINGLE-SOURCE-graphic and SINGLE-SOURCE-contextual categories of error. The 'conventional' text thus appeared to provoke a greater tendency towards the reliance on graphic information, at the expense of considering 'meaning', than either the SELF or PEER-texts. It is worth mentioning here that the number of SUBSTITUTION errors (per hundred words) observed during the reading of each type of text was very similar so that the differences mentioned above were qualitative rather than quantitative.



A third clear finding related to the reading ability groups and the incidence of SINGLE-SOURCE-graphic errors. The data showed that when these did occur, they were much more likely to have been produced by the children in the Fair and Poorer reading ability groups than by the Better readers. Only 3% of the Better readers' SUBSTITUTION errors suggested the sole use of graphic information whereas the corresponding figures for the Fair and Poorer groups were 24% and 32% respectively.

Generally speaking then there was very little evidence that the 52 readers were predisposed to concentrate exclusively on the use of either graphic cues or contextual cues - rather the majority of their SUBSTITUTION errors suggested that they were well capable of attempts to synthesise the sources of textual information during their oral reading performances - 83% of these errors showing the (probable) use of COMBINED-SOURCES of textual information.

#### Section 6: A summary of the findings of the analysis of the SUBSTITUTION errors which occurred on the CLASS-text

The main findings of the various stages of the analysis of the SUBSTITUTION errors which occurred on the CLASS-text are summarised below.

#### **NON-WORDS on the CLASS-text**

3.5% of the SUBSTITUTION errors which occurred on the CLASS-text were NON-WORDS - a total of 19 errors which involved 13 of the 52 readers. However, 10 of the 19 errors were produced in response to one particular word which occurred in the text - the proper name

'Eldorado'. A total of 8 different versions of this target word were produced by the children. This suggested a very clear and specific textual effect in terms of the NON-WORD responses on the CLASS-text.

All the NON-WORDS had a marked graphic similarity to the target words in question. This finding, compatible as it was with the NON-WORD findings on the SELF and PEER-texts, supported the view that NON-WORD errors illustrated a reader's reliance on graphic cues though this is not to suggest that the contextual information had not been sampled. No Better readers made NON-WORD errors on the CLASS-text and the 3.5% NON-WORD error rate was slightly higher than that reported for the SELF-texts (2%), and slightly lower than the corresponding PEER-text figure (5%).

#### Use of GRAPHIC cues on the CLASS-text

A total of 97% of the readers' SUBSTITUTION errors showed some degree of graphic similarity with the target words they represented, and differences between the Better, Fair and Poorer ability groups were very slight. Thus the findings from the SELF and PEER-text data that the Better readers' errors showed the least (general) graphic similarity was not replicated by the CLASS-text data. A more detailed discussion of ability differences and text-differences will be included in the following chapter but it is worth noting here that the (general) graphic similarity percentage at 97% was higher than the corresponding SELF and PEER-text percentages.

The more detailed analysis of the graphic similarity of the SUBSTITUTION errors to the target words concerned showed 'beginning' and 'middle' similarity to be exactly the same at 80% (overall). As

with the SELF and PEER-text errors 'ending similarity' was considerably lower at 36%.

#### Use of SEMANTIC cues on the CLASS-text

The general level of semantic acceptability for the SUBSTITUTION errors on the CLASS-text was 89% - lower than the corresponding figure on the SELF-text (97%) but slightly higher corresponding PEER-text percentage of 86%. Differences between ability groups were not large but showed a trend with the Better readers making the highest possible general semantic acceptability score of 100%. The Poorer readers' score was lowest at 87%, and the corresponding percentage for the Fair readers was 92%

The more detailed analysis of levels of semantic acceptability showed the acceptability WITHIN-PASSAGE to be the lowest. Only 23% of the SUBSTITUTION errors made 'sense' at this level suggesting that the general comprehension level of the passage for those children who made several SUBSTITUTION errors had probably been very low. It is worth noting here that the CLASS-text data, unlike the SELF and PEER-text data, showed quite marked ability differences concerning the WITHIN-PASSAGE semantic acceptability of the SUBSTITUTION errors. Moreover, the WITHIN-PASSAGE acceptability percentage was much lower on the CLASS-text at 23%, than on the SELF and PEER-texts (64% and 43% respectively).

The suggestion that the children were able to make better use of the PRECEDING than the SUCCEEDING linguistic context in terms of the semantic acceptability of a SUBSTITUTION error - supported by the SELF and PEER-text data - was not confirmed by the corresponding

CLASS-text analysis which showed semantic acceptability at these two levels to be very similar although ability groups differed considerably.

#### Use of SYNTACTIC cues on the CLASS-text

The general syntactic acceptability of the children's SUBSTITUTION errors was extremely high (94% overall) and differences between ability groups in this respect were minimal. However, the more detailed analysis of syntactic acceptability showed the WITHIN-PASSAGE/SENTENCE level of acceptability to be considerably lower (63%) and ability differences were apparent at this level as well as at the levels of PRECEDING and SUCCEEDING context. No marked ability differences had been reported in these respects for the SELF and PEER-text data though the overall percentages of syntactic acceptability were similar on each of the three texts. Generally speaking levels of syntactic and semantic acceptability were very similar on the CLASS-text - a finding which was reflected in the SELF-text data but not in the data from the PEER-text where syntactic acceptability had been higher than semantic acceptability.

#### SINGLE and COMBINED-SOURCE errors

92% of the children's SUBSTITUTION errors indicated that COMBINED-SOURCES of textual information (contextual and graphic) had been used in producing the substituted word. This indicated that SINGLE-SOURCES of information - graphic or contextual had seldom been used i.e. only 8% of the errors suggested this possibility. There were no marked ability differences with regard to the COMBINED and SINGLE-SOURCE percentages although the differences which were

observed showed the Better readers to have made the fewest SINGLE-SOURCE errors and the Poorer readers the most. The broad patterns apparent in the data were compatible with those displayed by the corresponding percentages reported for the SELF and PEER-texts although the magnitude of the difference between the COMBINED and SINGLE-SOURCE percentages was greater on the CLASS-text. There was then very clear evidence from each of the three texts that the children had made attempts to synthesise the graphic and contextual information during the reading of each passage.

However, when the SINGLE-SOURCE errors were examined in order to discover whether these indicated the use of graphic information or the use of contextual cues the data showed some very interesting findings. In overall terms approximately equal numbers of the errors showed the use of 'just graphic' or 'just contextual' information whereas the data from the SELF and PEER-texts had given a strong indication that the sole use of graphic cues was relatively infrequent. Taken at face-value this contrast in the number of graphically constrained errors on the CLASS-text indicated that the children had been much more likely to pay attention to graphic cues on this 'conventional' text. However, when ability levels were considered it became apparent that this had not been the case for all of the children.

### Generally

The analyses of the SUBSTITUTION errors on the CLASS-text, like the corresponding analysis on the SELF and PEER-texts, indicated the general capability of the children to make use of both graphic and contextual cues. However, ability differences (in respect of

WITHIN-PASSAGE semantic acceptability and the use of SINGLE-SOURCE and COMBINED-SOURCE errors for example) were more marked on the CLASS-text. Whether this impression was borne out by a comparison of the data from the three types of text, and how this might relate to the 'flexibility' of the strategies of readers of differing ability when presented with different types of reading material, is the subject of the following chapter.

## VOLUME 2

Section D	Reading strengths and weaknesses	
15	Patterns of oral reading errors on the three types of text and a consideration of the children's reading strengths and weaknesses	375 - 433
16	The results of the 'out-of-context' tasks	434 - 447
PART FOUR:	METALINGUISTIC KNOWLEDGE	
17	Children's metalinguistic knowledge about reading: the current research picture	448 - 459
18	Results: the children's perceptions of their own reading attainment and their notions of what characterises 'good' and 'poor' readers	460 - 481
19	Results: the nature of written material: notions of 'easy' and 'difficult' texts	482 - 498
20	Results: reading strategies: the children's solutions to the problem of solving 'unknown' words	499 - 520
21	Results: the basic vocabulary of reading and written language: COMMA, FULLSTOP, QUESTION MARK, SPEECH MARKS and APOSTROPHE	521 - 556
22	Results: the children's opinions about the purpose of reading	557 - 574
23	Metalinguistic knowledge and perceptions of reading: a summary and discussion of the findings	575 - 590
PART FIVE:	ORAL READING ERRORS AND METALINGUISTIC KNOWLEDGE	
24	A summary of the major findings of the study and some possible implications for classroom practice and future research	591 - 617
APPENDIX A	Pilot work: the feasibility of producing 'self-generated' texts	618 - 633

APPENDIX B	ANOVA tables and Chi-square values	634 - 644
APPENDIX C	Classification schedule for the detailed analysis of SUBSTITUTION errors	645
APPENDIX D	The CLASS-text passage and examples of SELF AND PEER texts	646 - 659
APPENDIX E	List of tables and figures	660 - 667
REFERENCES		668 - 675



## Section D: Reading strengths and weaknesses

## CHAPTER 15

PATTERNS OF ORAL READING ERRORS ON THE THREE TYPES OF TEXT  
AND A CONSIDERATION OF THE CHILDREN'S READING STRENGTHS  
AND WEAKNESSES

### Overview

The preceding chapters have described the patterns and the quality of oral reading errors of 52 remedial readers on 3 types of text for which they could be assumed to have differing amounts of 'background knowledge'. The SELF-texts, based on transcripts of readers' own speech about topics which interested and concerned them, could be said to provide maximum 'accessibility' in terms of subject matter and vocabulary. The second type of text - the PEER-texts - involved the children (matched for reading age and sex) reading each other's self-generated texts. The vocabulary and content of these texts obviously differed from that of the SELF-texts although the subject matter (friends, hobbies, school, pets) was the same. These PEER-texts might therefore be said to provide less 'accessibility' in terms of a reader's individual 'background knowledge' of what was to be read, but the vocabulary and concepts involved could still be assumed to be close to the reader's own experience. The third type of text - the CLASS-text - consisted of an extract from a 'class-reader' which the children were due to read in the near future. The typical 'book language' in this story contained a good deal of reported speech and outlined a sequence of events for which the children would have to draw on their more general experiences. The passage - chosen in consultation with their teachers - was felt to be within their reading

and comprehension abilities but in terms of 'background knowledge' this text could be assumed to be less 'accessible' than either the SELF or PEER texts.

The preceding descriptions of the number and nature of the children's REFUSAL, OMISSION, INSERTION and SUBSTITUTION errors can now be drawn together in an attempt to provide a picture of their reading strengths and weaknesses. Before proceeding, however, it must be acknowledged that whilst the number and the nature of errors made on each type of text will be compared, the children's readings of the three types of texts were separated by a period of weeks rather than days. Thus, whilst it is true that the children's actual reading-ages (as measured by the Schonell GWR test) did not differ to any great extent with respect to the beginning and the end of the period of the text readings, the time which elapsed between reading tasks could be considered to be a confounding variable. However, the main purpose of the present chapter is not to provide a strict comparison of the children's performance on each type of text but rather to provide, through a description of oral reading errors on three texts of differing 'accessibility', a more rounded picture of their reading strengths and weaknesses than could have been obtained through an analysis of oral reading errors on 'school-generated' texts alone.

The chapter is divided into two sections. SECTION 1 reports the patterns of REFUSAL, OMISSION, INSERTION and SUBSTITUTION errors in overall terms according to text-type and ability. Some consideration is then given to the question of how the patterns of error might relate to reading strengths and weaknesses. However, the main description and discussion of the various aspects of the children's reading strategies is reserved until SECTION 2 where the findings from

the detailed analysis of the readers' SUBSTITUTION errors are reviewed.

### SECTION 1: Patterns of error on the SELF, PEER and CLASS-texts

This section begins with a brief examination of the number of errors (errors per hundred words) made overall, and on each type of text, according to reading ability groups. However, the focus moves quickly to a consideration of error patterns and the 'quality' of the REFUSAL, OMISSION and INSERTION errors in terms of what they revealed about reading strengths and weaknesses. (As mentioned above SUBSTITUTION errors will be considered in detail in SECTION 2 of this chapter.)

There were three main areas of investigation concerning the reporting of the oral reading error data. These are expressed as questions below:

- Q1. Did the ACCURACY of the children's reading (expressed in terms of errors per hundred words) differ according to text-type and/or to ability groups?
- Q2. What was the overall pattern of the REFUSAL, OMISSION, INSERTION and SUBSTITUTION errors (texts pooled)? Did the pattern vary according to text-type and/or ability groups?
- Q3. Did the 'quality' of the children's REFUSAL, OMISSION and INSERTION errors reveal reading 'strengths' as well as reading 'weaknesses'?

**Q1. Did the accuracy of the children's reading differ according to text type and/or ability?**

Whilst it was the 'quality' rather than the 'quantity' of the children's errors which was of major interest it was nevertheless important to gain some clear overall picture of reading accuracy and how this may have varied according to text-type and reading ability. For example had the CLASS-text provoked more errors overall than the SELF and/or PEER-texts?

The relevant analysis of the children's error per hundred words scores as they occurred on each text, reported in previous chapters, had shown on each of the SELF, PEER and CLASS-texts that no statistically significant differences existed between the accuracy rates of the Better and Fair group children but that the Poorer readers had always made significantly more errors than each of the higher ability groups. The cumulative mean error per hundred words data (mean ephw) for each text and each ability group is presented in Table 15.1 below.

**Table 15.1** Mean errors per hundred words on each type of text for each ability group

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
SELF-text	$\bar{x}$	0.60	1.68	5.14	2.42
	s.d.	0.7	1.4	4.1	3.1
PEER-text	$\bar{x}$	1.25	2.26	5.68	2.93
	s.d.	1.1	0.2	6.8	4.5
CLASS-text	$\bar{x}$	0.69	1.98	6.36	2.94
	s.d.	0.7	1.4	4.4	3.6
ALL-texts	$\bar{x}$	0.84	1.97	5.72	2.84
	s.d.	0.9	1.1	5.1	3.9

As Table 15.1 shows the overall differences between the mean ephw scores for each type of text were extremely small as were the within-ability group differences. It was also apparent that no ability x text-type interactions were likely.

The results of a two-way analysis of variance test (text x ability with 1 repeated measure) confirmed that no statistically significant overall differences existed between the mean ephw scores for each text ( $F = 2.29$ ; d.f. 2,98; N.S.) and that there were no test x ability interactions ( $F = 2.13$ ; d.f. 4,98; N.S.). However, as might have been predicted from the earlier analyses the overall ability effect was highly statistically significant ( $F = 17.36$ ; d.f. 2, 49;  $p < 0.001$ ). The detailed ANOVA table is available in Appendix B. Subsequent Scheffé tests, computed from the overall mean ephw for each of the three ability groups, confirmed the pattern of findings reported above in respect of the ability group performances on individual texts i.e. the overall ephw scores of the Better and Fair group readers did not differ statistically significantly from each other but the overall ephw score of the Poorer readers was significantly higher than that of the two other groups. The results of the Scheffé tests are summarised in Table 15.2 below.

Table 15.2 Results of the Scheffé tests comparison of the overall mean error per hundred words scores of the Better, Fair and Poorer readers

Reading ability groups	F value	d.f.	significance
Better (n19) vs Fair (n17)	0.31	2,49	N.S.
Better (n19) vs Poorer (n17)	3.61	2,49	$p < 0.05$
Fair (n16) vs Poorer (n17)	3.54	2,49	$p < 0.05$

Summing up the findings of the statistical analysis of the data concerning reading accuracy scores on the three types of text and on the texts overall, it can thus be seen that the reading accuracy rates of the Better and Fair readers were more or less equivalent whilst the Poorer readers always made the highest number of errors. The finding which was of major interest, however, was that the within-ability group mean accuracy rates were consistent across the SELF, PEER and CLASS-texts. This was reassuring in as much as it suggested that the texts were of comparable 'difficulty' and that any qualitative differences in the children's errors (within ability groups) could be related to their differing 'accessibility' of the texts terms of the readers' 'background knowledge' of their content. However, it is worth noting also that the between-group mean error per hundred words scores suggested that whereas the Poorer group children were reading at around their 'instructional' level (5% error-rate: Johnson and Kress 1965) even on their self-generated texts, the two higher ability groups were reading at an 'independent' level on each of the three texts. This difference can be taken to illustrate the problems apparent in attempting to produce texts of equivalent difficulty for readers whose ability levels vary (see Chapter 1, for a discussion of this point with respect to previous oral reading error research) and should perhaps be borne in mind with regard to the comparison of the qualitative nature of the children's errors to be described below. (The readability of the three texts, as far as this could be ascertained, is discussed below.)

**Q2. What was the overall pattern of the REFUSAL, OMISSION, INSERTION and SUBSTITUTION errors (texts pooled)? Did the pattern vary according to text-type and/or ability groups?**

A total of 1536 oral reading errors were recorded during the children's reading of the SELF, PEER and CLASS-texts. By far the

highest proportion of these errors - just over 80% - fell into the SUBSTITUTION category whilst the remaining errors were fairly evenly distributed across the REFUSALS, OMISSIONS and INSERTIONS categories. Table 15.3 below illustrates this overall pattern of errors.

Table 15.3 The overall pattern of the total number of oral reading errors recorded (texts pooled)

	REF.	INS.	OMIS.	SUBS.	ALL
number of errors	70	84	117	1265	1536
proportional percentage	4.5	5.5	7.6	82.4	100.0

This pattern of errors was more or less consistent with the patterns described by previous researchers who have observed the oral reading errors of younger 'average' readers on conventional texts. For example Weber (1970) studying 6 year old readers reported 80% of all errors to be SUBSTITUTIONS, 9.2% as INSERTIONS and 8.5% as OMISSIONS. There was, however, some difficulty in making direct comparisons between the errors of the children who participated in the present author's study and the findings of previous researchers since as noted in Chapter 1 the error categories of the various authors differed considerably. Weber (1970) for example did not include a REFUSALS category in her analysis though she noted that 'their occurrence may be very significant' (p.433). In addition to this problem researchers such as Biemeller (1970), who did include a REFUSALS category (and whose error categories were adopted by the present author) often give no precise indication of the percentages of errors falling into each of their chosen categories. Nevertheless, despite these differences in procedures, there is a general consensus that SUBSTITUTION errors account for around 80% of all oral reading



errors. It seems safe to report then that the overall error pattern of the 52 11 year old remedial readers who participated in the present author's study reflected the findings reported by previous researchers in respect of both younger and more 'average' readers.

The overall pattern of errors (lowest percentage to highest) was thus:

REFUSALS --> INSERTIONS --> OMISSIONS --> SUBSTITUTIONS

Whether or not this overall pattern was reflected on each of the SELF, PEER and CLASS-texts, and for each of the three ability groups is reported below.

Patterns of error on the three types of text and their relationship to reading ability groups

Table 15.4 shows the distribution of the children's errors on the SELF, PEER and CLASS-texts (ability groups pooled) and the following tables provide a further breakdown of each category of error in terms of the Better, Fair and Poorer readers' performances on the three types of text. The data in each case are expressed as the proportional percentages of each type of error to all errors since differences in text-lengths prevented the direct use of the raw scores. Since the data were nominal in origin a series of Chi-square tests (calculated from the raw data) were performed in order to give an indication of where the frequencies of the error proportions varied significantly across the three texts. On a few occasions, however, it was not possible to calculate Chi-squares due to low expected frequencies in two or more of the 6 cell sizes. Where this occurred the observation 'NO TEST' is recorded in the appropriate column of the data table concerned. For the sake of brevity in the data tables

below only the probability level of each Chi-square is reported. The actual Chi-square values are available in Appendix B.

Table 15.4 Patterns of error (in percentages) on each type of text (ability groups pooled)

	REF.	INS.	OMIS.	SUBS.	ALL
SELF-text	6.1	8.6	11.6	73.7	100.0
PEER-text	5.4	2.5	9.1	83.0	100.0
CLASS-text	2.8	5.5	3.6	88.1	100.0
$\chi^2$ significance	p<0.001	p<0.001	p<0.001	p<0.001	
ALL texts	4.6	5.5	7.6	82.3	100.0

As Table 15.4 shows statistically significant variations occurred in the frequency of each type of error when the texts were compared. The patterns of each type of error, across the three different texts, are considered separately below where any ability group differences in the error patterns are also reported and discussed.

#### REFUSAL error patterns

Looking first at the pattern of REFUSAL errors Table 15.4 shows that the incidence of this type of error was highest on the SELF-text and lowest on the CLASS-text. (Although, as the data show, the SELF and PEER-text percentages were very similar.)

In terms of the SELF-text at least this was a somewhat unexpected finding since it might have been assumed that of the three reading passages presented to the children, those based upon their own oral vocabularies would have prompted the fewest number of REFUSAL errors

i.e. children might have been better placed to attempt words which had definite oral familiarity for them.

However, following Biemiller's view that REFUSAL errors can sometimes be regarded as a sign of a reader's increasing ability to use textual information to discriminate between a correct and incorrect response (Biemiller 1970) one explanation of the higher incidence of REFUSAL errors on the SELF-text can be offered. In reading their own texts children were perhaps better able to discriminate whether an attempt at a 'problem' word was likely to be correct and so less likely to 'guess' (make a SUBSTITUTION error) than to 'refuse'. An example from BRIAN's REFUSAL errors on his self-generated text can be used in order to clarify this point. BRIAN's errors, along with those of other 'refusing' children, were described in Chapter 7, and it may be remembered that two of his REFUSAL errors were particularly surprising since they were made in response to the words 'Brandy' and 'Judy'. These were in fact the names of his pet dogs. Leaving aside for the moment the point that BRIAN might have been expected to recognise these proper names it is nevertheless not surprising that, being apparently unable to do so, he did not respond to the words with SUBSTITUTION errors - say 'Billy' and 'Jenny' - since he would obviously have known that these names were incorrect. (Though why he could not recall (even if not read) the names of his own pets remains a mystery. A possible, if cynical explanation might be that he 'made up' the pets during the initial 'talk' with the author upon which his text was based. Whether this might have been to 'please' or 'confuse' is open to speculation!)

Whatever the explanation, the fact remains that the data in Table 15.4 illustrate the interesting and rather unexpected finding that the

highest proportion of REFUSAL errors occurred on the SELF-text.

REFUSAL errors and reading ability groups. Table 15.5 shows the proportional percentages of REFUSAL errors to all errors for each of the ability groups for each type of text.

Table 15.5 REFUSAL errors: proportional percentage of REFUSAL errors to all errors for each ability group and type of text

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)	$\chi^2$ significance
SELF-text	0.0	2.0	8.3	6.1	p<0.02
PEER-text	0.0	1.4	9.0	5.4	p<0.001
CLASS-text	0.0	0.0	3.9	2.8	(no test)
ALL texts	0.0	1.1	6.6	4.6	p<0.001

Table 15.5 shows very clearly that the REFUSAL errors were largely a function of the Poorer readers' group and that in proportional terms the CLASS-text was the least likely to provoke such errors. This greater tendency to refuse words on the part of the Poorer readers seemed likely to be concerned with their low ability in graphic skills as compared with the other two groups and this was particularly likely in the case of the SELF-text since their oral familiarity with its vocabulary (and thus their comprehension of the words refused) was assured. How far comprehension difficulties may have contributed towards the refusal of words on the PEER and CLASS-texts cannot of course be gauged and the time which elapsed between text readings (mentioned above) may also have been a relevant variable here.

However, what is clear from the data is that REFUSAL errors were, by and large, a feature of the oral reading performance of the children with the lowest reading ability as it was measured by the Schoneill GWR test. Fair readers made only 2 REFUSAL errors and the Better group children attempted all the words contained in each type of text.

#### OMISSION error patterns

Table 15.4 above showed that OMISSION errors were most frequent on the SELF-texts (11.6%) and least frequent on the CLASS-text (3.6%) whilst the corresponding percentage figure for the PEER-texts was 9.1%. As reported in the data table a Chi-square test showed this variation in the frequencies of the proportional percentages of OMISSION errors to be statistically significant ( $p < 0.001$ ) although the percentages recorded for the SELF and PEER-texts were quite similar to each other. However, before discussing possible explanations for the higher occurrence of OMISSION errors on the SELF and PEER-texts some attention must be given to the question of what is known about the 'quality' of such errors and what their occurrence may signal about reading strengths and weaknesses.

Few researchers have made a detailed study of OMISSION errors with respect to readers of any age or ability. However, there is general agreement with the view of Goodman (1973) that they may be regarded as a strength rather than a weakness in a reader's strategies when they are 'acceptable' OMISSIONS. These are taken to illustrate the ability to process text for meaning without paying an equal amount of attention to every single letter and word, i.e. some words are virtually redundant in that their omission does not disrupt the

intended meaning of the author's message. Bearing in mind this notion that OMISSION errors can be 'good' errors it might be that a higher frequency of such errors would have been expected to occur on the 'tailor-made' self-generated texts (and perhaps on the PEER-texts) than on the CLASS-texts used in the present author's study, i.e. children reading their own or each other's texts might be better able to read for 'gist' and omit redundant words. Such an argument might explain the higher frequency of OMISSION errors on the SELF-texts and PEER-texts than on the CLASS-texts reported above. However, the validity of such an explanation would obviously depend upon an examination of the 'quality' and not just the quantity of the OMISSIONS. The majority of the SELF and PEER-text omitted words would have to be seen to be 'good' errors in that they did not disrupt the meaning of the sentences in which they occurred. Furthermore, it would be of interest to discover the overall proportions of 'acceptable' to 'unacceptable' OMISSION errors (texts pooled) since this would give an indication of whether or not these could generally be considered as indicators of 'strengths' or of 'weaknesses' in the children's reading strategies. The 'qualitative' analysis of the OMISSION errors which occurred on each type of text, and which was reported in detail in Chapters 8, 11 and 14 above, meant that both these lines of enquiry could be pursued. Table 15.6 presents the relevant data concerning the percentages of 'unacceptable' OMISSION errors which were observed on the SELF, PEER and CLASS-texts.

As the data in Table 15.6 indicate only 35% of the total number of OMISSION errors which had occurred on the three types of text had been classified as 'unacceptable' so 65% of the omitted words could be said to represent 'good' errors. No comparative investigations of the quality of OMISSION errors could be traced in the existing oral

Table 15.6 The percentage of OMISSION errors classified as 'UNACCEPTABLE' on each of the three texts

	UNACCEPTABLE OMISSION ERRORS
SELF-text	43.1
PEER-text	27.3
CLASS-text	31.8
$\chi^2$ significance	$p < 0.001$
ALL texts	35.0

reading error literature but it would seem from the finding reported above that the reading strategies of the 11 year old remedial readers who participated in the present author's study, at least in respect of omitted words, were comparable with those described by such theorists as Goodman (1967) and Smith (1978) in respect of more proficient readers.

However, the data in Table 15.6 also show very clearly that the argument posed above, in respect of the highest percentage of the OMISSION errors on the SELF-text being 'acceptable', found no support. On the contrary the percentage of OMISSION errors classified as 'unacceptable' on the 'tailor-made' SELF-texts was considerably higher than those recorded for the PEER-text and the less 'accessible' CLASS-texts and the Chi-square calculation showed this variation in frequencies to be statistically significant ( $p < 0.001$ ). Thus the higher proportion of OMISSION errors observed on the SELF-text could not be explained in terms of the children's greater tendency to be able to read for 'meaning' (omit 'redundant' words). How this finding could be explained is thus unclear although it is worth referring the reader to the caveat added to the summary of findings regarding OMISSION errors on the SELF-text in Chapter 7, in this connection. In

essence the suggestion put forward there was that the sentence-structure of the self-generated texts, transcribed as it was from the children's own speech, was sometimes less than elegant, and that occasional 'clumsy prose' may thus have been responsible for some of the OMISSION errors. Even so this would not explain away the finding that a higher proportion of these errors were classified as unacceptable on the SELF-texts than on the PEER-texts. It must be conceded therefore that, whilst the majority of the children's OMISSION errors over all texts indicated reading 'strengths' rather than 'weaknesses', the percentages of errors (and the proportion of 'good' errors) which occurred were difficult to relate to text 'accessibility'.

OMISSION errors and reading ability groups. For the sake of clarity in the reporting of the overall patterns of OMISSION errors discussed above no reference was made to the percentages of omitted words observed for the Better, Fair and Poorer reading ability groups and how this may have varied according to text-type. Table 15.7 below now presents the relevant findings in this respect.

Table 15.7 OMISSION errors: proportional percentages of OMISSION errors to all errors for each ability group and each type of text

	Better (n19)	Fair (n16)	Poorer (n17)	$\chi^2$ significance	All (n52)
SELF-text	19.5	15.2	9.3	N.S.	11.6
PEER-text	13.9	10.2	7.2	N.S.	9.1
CLASS-text	14.8	4.8	1.9	No test	3.6
ALL texts	15.5	9.6	5.5	$p < 0.001$	7.6



Looking first at the overall pattern of OMISSION errors according to reading ability the data show the clear finding that the Better readers made the highest proportional percentage of omitted words (texts pooled) and the Poorer readers the lowest ( $p < 0.001$ ). Furthermore, although no statistically significant Chi-square was obtained for ability groups on each text-type, it can be seen that the statistically significant 'ALL-text' pattern was reflected in the SELF, PEER and CLASS-text ability data - Better readers made the highest proportion of this type of error on each text and Poorer readers the lowest. There was thus no evidence of any text x ability interactions. An additional point which can be made about the ability group data is that the pattern of errors observed was consistent with that reported above (Table 15.4) where data from the three ability groups were pooled and showed the highest proportion of OMISSION errors to have occurred on the SELF-text and the lowest on the CLASS-text. The pattern of OMISSION errors was thus very clear and was consistent in terms of both text-type and ability.

However, the interest of major concern regarding the OMISSION errors data of the Better, Fair and Poorer readers involved the question of the 'quality' of the errors. For example, did the Poorer readers produce the largest percentage of 'unacceptable' OMISSIONS overall and on each type of text? In other words was there any evidence of a linear relationship between reading ability and the qualitative nature of the errors? The relevant data concerning these questions is presented in Table 15.8 below.

Table 15.8 Percentage of OMISSION errors classified 'UNACCEPTABLE' for each of the three ability groups on each type of text

	Better (n19)	Fair (n16)	Poor (n17)	$\chi^2$ Significance	ALL (n52)
SELF-text	37.5	40.0	46.4	No test	43.1
PEER-text	18.2	14.3	42.1	No test	27.3
CLASS-text	12.5	16.7	62.5	No test	31.8
ALL-texts	22.2	25.7	47.3	p<0.05	35.0

As Table 15.8 shows a much higher percentage of the Poorer readers' OMISSION errors than of the Better and Fair groups errors were classified as 'unacceptable' (over all texts). As the Poorer group percentage figure shows almost half the total number of OMISSION errors observed had been 'bad' errors in as much as they seriously disrupted the intended meaning of the sentences in which they occurred. The corresponding figure for the Better and Fair groups, which were very similar, suggested that by contrast approximately three quarters of their errors had been 'good' OMISSIONS involving words which were essentially redundant to the texts' intended meaning. Looking at the percentage figures for each type of text it can be seen that whilst this general pattern was reflected for the PEER and CLASS-texts the levels of 'unacceptable' OMISSION errors were a great deal higher for the SELF-text, and that the three ability groups were much more similar although the Poorer readers' unacceptable errors were still the most frequent.

Thus in terms of the pattern and the quality of OMISSION errors according to the Better, Fair and Poorer reading ability groups two main findings emerged. First it was clear from the data that the Better readers produced the highest proportional percentage of

OMISSION errors to all errors and the Poorer readers the lowest. Secondly there was clear evidence that in terms of 'unacceptable' errors, the Poorer readers produced a much higher proportional percentage than the Better and Fair group children and that this was particularly so for the CLASS-text. Put simply these findings could be interpreted as showing that a higher proportion of OMISSION errors was related to a higher level of reading ability as was the incidence of 'good' as opposed to 'bad' errors of this type.

#### INSERTION error patterns

Turning next to the pattern of INSERTION errors which occurred on the three types of text Table 15.4 above indicated that the highest proportion of these errors to all errors occurred on the SELF-text (8.6%) and the lowest on the PEER-text (2.5%). The corresponding figure for the CLASS-text was 5.5%. This variation in the proportion frequencies (calculated from the raw data) was shown to be statistically significant ( $p < 0.001$ ). If it could be assumed that the differences in text-type were responsible for the proportional differences in error frequencies this finding would suggest that the children were considerably more inclined to insert words when presented with their own texts. Providing that the majority of the INSERTION errors had been classified as 'acceptable' a similar hypothesis to the one proposed above concerning 'good' OMISSION errors seemed appropriate i.e. that more INSERTION errors might have occurred on the SELF-text due to the children's superior 'background knowledge' of its content and vocabulary. (The hypothesis was of course unsupported in the case of the OMISSION errors, as has been shown above, but it nevertheless seemed appropriate to pursue a similar line of enquiry concerning the INSERTION error data.)

There were thus two main questions which were of interest regarding the pattern of INSERTION errors. First of all could the majority of the inserted words be regarded as indicating a reading strength or a reading weakness? (Were they mainly 'acceptable'?) Secondly, if the INSERTION errors did reveal a 'strength' was it more evident from the reading of the SELF-texts? (Did the lowest proportion of 'unacceptable' INSERTION errors occur on this text?) Table 15.9 shows the level and the pattern of 'unacceptable' INSERTION errors as they occurred on each type of text.

Table 15.9 The percentages of INSERTION errors classified as 'UNACCEPTABLE' on each of the three texts

	UNACCEPTABLE INSERTION errors
SELF-text	5.2
PEER-text	25.0
CLASS-text	44.1
$\chi^2$ significance	$p < 0.001$
ALL-texts	23.8

As Table 15.9 shows only 23.8% of the children's total number of INSERTION errors on the three types of text had been classified as 'unacceptable' - a finding which clearly suggested that, like the majority of OMISSION errors, they were 'good' in the sense that they did not detract from the intended meaning of the texts. Such 'acceptable' errors could be taken as an indication that despite the general low reading ability of the group of 52 remedial readers, there was evidence that they possessed reading strategies which allowed them to read in a predictive manner rather than in a mechanical word by word fashion. A second feature of the data displayed in Table 15.9 was

the finding that a much smaller percentage of the unacceptable INSERTIONS had occurred on the 'tailor-made' SELF-texts - 5% as opposed to 25% on the PEER-texts, and 44% on the CLASS-texts. The notion that INSERTION errors might generally be regarded as a reading 'strength' rather than a 'weakness', and that this 'strength' would be most apparent on the SELF-text were thus borne out by the data. It is worth noting here also that the difference in the magnitude of the percentages of 'unacceptable' INSERTION errors according to text type was particularly interesting in that it pointed up the complexity of what may be inferred about reading strategies from oral reading errors generally. For example, if only the 'conventional' class-reader passage had been used 44% of the children's INSERTION errors would have indicated that the readers inserted sense-disrupting words as they read orally. As it was the much lower 'unacceptable' percentage rate indicated by the ALL-text data, and the very low SELF-text percentage 'unacceptable' INSERTION error-rate, gave a very clear indication that these low-ability readers were capable of using predictive strategies - particularly during the reading of a text which provided maximum 'accessibility' in terms of individual readers' background knowledge of its content matter and vocabulary.

INSERTION errors and reading ability groups. The INSERTION error data, having indicated that this type of error might be regarded as evidence of a reading 'strength' rather than a reading 'weakness', and that this strength was most evident from the errors observed on the SELF-text, prompted two main questions of interest concerning a possible relationship between INSERTION errors and reading ability. First of all had the children in the Better readers' group produced the highest proportional percentage of such errors? Secondly had the lowest percentage of unacceptable INSERTION errors been observed for

this group? An additional area of interest was concerned with the question of whether text-type and ability showed any interesting patterns in the INSERTIONS data. For example did Better readers do 'best' (in terms of the acceptability of their errors) on each type of text, or did the optimum 'accessibility' of the SELF-text provide the three ability groups with a more equal opportunity to insert appropriate words?

Looking first at the question of possible differences in the occurrence of INSERTION errors across the three ability groups Table 15.10 provides the relevant proportional percentages data.

Table 15.10 INSERTION errors: proportional percentages of INSERTION errors to all errors for each of the three ability groups on each type of text

	Better (n19)	Fair (n16)	Poorer (n17)	$\chi^2$ significance	All (n52)
SELF-text	4.9	6.0	10.0	N.S.	8.6
PEER-text	3.8	2.1	2.3	No test	2.5
CLASS-text	13.0	5.5	4.6	p<0.05	5.5
ALL-texts	6.9	4.4	5.6	N.S.	5.5

Table 15.10 shows that no particularly clear patterns emerged in the data concerning the question of whether or not the Better readers made the most INSERTION errors, overall and on each type of text, and the Poorer readers the fewest. The Better readers data did show the highest proportional percentage of INSERTION errors for ALL texts, for the CLASS-text and for the PEER-text. However, with the exception of the CLASS-text finding, the proportional percentages did not vary statistically significantly across the three ability groups.

Moreover, the SELF-text data showed the Poorer readers to have obtained the highest proportional percentage figure and the Better readers the lowest - though this finding was not shown to be statistically significant. Generally speaking then differences in INSERTION error proportions between the three ability groups were minimal and the notion that the Better readers might make the highest proportion of these errors to all errors and the Poorer readers the lowest found only weak support.

Nevertheless, the second question posed above - whether the 'acceptability' of the errors varied according to reading ability - was still worth investigating. If, as was suggested above, INSERTION errors could be regarded more as an indicator of reading 'strength' than of reading 'weakness', it was logical to suppose that the Better readers would have made the lowest number of 'unacceptable' errors and the Poorer readers the highest. Table 15.11 below provides the relevant data in this respect.

Table 15.11 Percentages of INSERTION errors classified 'UNACCEPTABLE' for each of the three ability groups on each type of text

	Better (n19)	Fair (n16)	Poorer (n17)	$\chi^2$ significance	All (n52)
SELF-text	0.0	0.0	6.7	No test	6.7
PEER-text	66.6	33.3	0.0	No test	25.0
CLASS-text	0.0	14.3	70.0	No test	44.1
ALL texts	16.7	12.5	34.8	p<0.001	23.8

Once again the pattern of errors according to ability groups was not particularly clear-cut as the overall (ALL text) data show,

although the Poorer readers did make the highest percentage of 'unacceptable' errors when the data from each text was pooled and also when the SELF-text and the CLASS-text were considered. (Low expected frequencies prevented Chi-square calculations for individual texts.) However, it can be seen that the Better readers made no 'unacceptable' INSERTION errors on either the SELF-text or the CLASS-text and it may be remembered from Chapter 10 that the incongruently high percentage of 'unacceptable' errors which occurred on the PEER-text was the result of just two errors - both made by the same individual and both occurring in the same sentence. All in all the PEER-text data marred the pattern of 'unacceptable' INSERTION errors which might have been expected (Better group fewest - Poorer group most) the result being that the picture regarding relationships between 'good' INSERTION errors and reading ability was far from clear. Neither was there any evidence to support the suggestion that the more 'accessible' SELF-text might have minimised differences in the production of 'unacceptable' INSERTIONS by the three ability groups although it is worth noting in this connection that the Better readers errors were 100% acceptable on the 'less accessible' CLASS-text as opposed to a corresponding percentage of only 30% for the Poorer readers. Finally, a point made above - that an observation of the qualitative nature of INSERTION errors based only on the CLASS-text would have produced quite a different picture - can be reiterated in respect of the ability group data. That such a picture would have been 'tidier' is very evident (Better readers' errors 100% 'acceptable' - Poorer readers 30%) but whether it would have been more accurate is debatable since the data observed on the three types of text do at least make one thing clear: that the ability to make 'good' INSERTION errors was not restricted to the Better group readers just as the ability to make 'bad' errors of this type was not the prerogative of the Poorer group



children.

### SUBSTITUTION error patterns

The SUBSTITUTION errors made by the 52 remedial readers received a good deal of attention in previous chapters since their number and nature meant that they could be analysed in sufficient detail to give the best indication of the children's use of graphic, semantic and syntactic information from each of the SELF, PEER and CLASS-texts. The qualitative nature of these errors will be considered in the following section of the present chapter so it is necessary to give only a brief overview of SUBSTITUTION error patterns here.

As Table 15.4 indicated, SUBSTITUTION errors were by far the most frequently occurring type of error on each text. In overall terms 82.3% of the total number of errors observed fell into this category. Table 15.4 also indicated that the highest proportional percentage of SUBSTITUTION errors occurred on the CLASS-text (88.1%) and the lowest on the SELF-text (73.7%) whilst the corresponding figure for the PEER-text was 83%. A Chi-square calculation showed this variation in the proportional frequencies to be statistically significant ( $p < 0.001$ ).

The lower proportional percentage of SUBSTITUTION errors on the SELF-text could of course be explained by the higher proportions of REFUSAL, OMISSION and INSERTION errors which occurred on this type of text and tentative explanations, concerning the increased 'accessibility' of the SELF-text and the qualitative nature of the OMISSION and INSERTION errors have already been put forward above.

SUBSTITUTION errors and reading ability groups. As mentioned above the next section of the present chapter is devoted to the reporting of the findings concerning the qualitative nature of the SUBSTITUTION errors and any similarities and differences between the Better, Fair and Poorer readers will obviously be of interest there. However, the present section can give an overview of the pattern of SUBSTITUTION errors which occurred in relation to the three ability groups in order to discover whether or not this was consistent with the overall pattern (SELF-text lowest proportional percentage - CLASS-text highest). Table 15.12 shows the proportional percentages of SUBSTITUTION errors which occurred on each text according to the Better, Fair and Poorer ability groups.

Table 15.12 SUBSTITUTION errors: proportional percentages of SUBSTITUTION errors to all errors for each of the three ability groups on each type of text

	Better (n19)	Fair (n16)	Poorer (n17)	$\chi^2$ significance	All (n52)
SELF-text	75.6	76.8	72.4	N.S.	73.7
PEER-text	82.3	86.3	81.3	N.S.	83.0
CLASS-text	72.2	89.7	89.6	p<0.001	88.1
ALL texts	77.6	84.9	82.3	N.S.	82.3

As Table 15.12 indicates, whilst the overall pattern of SUBSTITUTION errors referred to above (ability group data pooled) was repeated in respect of the Fair and Poorer readers the same was not true concerning the proportional percentages of the Better readers. This group produced the highest proportional percentage of SUBSTITUTION errors on the PEER-text and the lowest on the CLASS-text. This finding was undoubtedly related to the fact OMISSION and

INSERTION errors on the CLASS-text featured considerably more strongly in the Better readers' total error pattern thus reducing the proportion of errors left to fall into the SUBSTITUTIONS category. For example the OMISSIONS figure for the Better readers on the CLASS-text was 14.8% as opposed to 4.8% and 1.9% for the Fair and Poorer groups respectively. Similarly the INSERTIONS figure for the Better readers on this text was 13% as opposed to 5.5% and 4.6% for the Fair and Poorer groups. The finding that the Better readers made more or less equal proportion of SUBSTITUTION errors on the SELF and CLASS-texts might be interpreted as evidence of an interaction between reading ability, text-type and the 'quality' of errors in the following way.

Leaving aside REFUSAL errors (since no errors of this type occurred in respect of the Better readers) it has been suggested above that the incidence of OMISSION and INSERTION errors could be taken as an indication of reading strengths rather than reading weaknesses. It has further been suggested that, this being the case, it was not surprising that a higher incidence of these two types of error (generally) was observed on the more 'accessible' SELF-text. However, the finding that this general pattern did not hold true for the Better readers suggests that this group of readers, reading the 'less accessible' CLASS-text, was able to maintain the proportions of OMISSION and INSERTION errors reported on the SELF-texts to a much better degree than the Fair and Poorer readers. For example, the Poorer readers INSERTION errors fell from a proportional percentage of 10% on the SELF-text - almost all of which were 'acceptable' - to a corresponding proportional figure of 4.6% on the CLASS-text - almost all of which were 'unacceptable'. By contrast the Better readers actually produced a higher proportion of INSERTION errors on the

CLASS-text than on the SELF-text and these were 100% 'acceptable'. By the same token the Fair readers' proportional percentage of INSERTION errors on the SELF and CLASS-texts were very similar (6.0% and 5.5% respectively) as was the 'acceptability' of these errors on both types of text (100% and 85%).

Thus whilst the notion that the SELF-text, being the most 'accessible', gave the best overall indication of the children's reading strengths, as these could be related to the quality of the OMISSION and INSERTION errors, this did not appear to hold true when both reading ability and text-type were taken into account. The Better readers' performance (and to some extent the performance of the Fair readers) was more consistent when the SELF and CLASS-texts were compared. For these readers the PEER-text rather than the CLASS-text seemed to cause the most problems. The reason for this is unclear though it is possible that the sometimes 'inelegant' sentence structure (referred to above and described in Chapter 7) may have been involved.

#### Summing up the error pattern findings

As can be inferred from the discussion above, an interesting, if complex picture of error-patterns and their relationship to ability and text 'accessibility' emerged. Although the optimum 'accessibility' of the SELF-text appeared to be an important factor regarding the 'quality' of the oral reading errors of the group as a whole it was also true that this picture became blurred when reading ability was taken into account. For the Better readers in particular, and to some extent for the Fair readers, the specialised background knowledge available to them during the reading of the 'tailor-made'

self-generated texts seemed a less important advantage. This finding would be consistent with the notion that it was not so much that the remedial readers' successful and less successful reading strategies differed per se, but that it was the flexibility with which readers of differing ability were able to use these strategies across the three different types of text that was important. An investigation of the evidence for and against this notion forms a central part of the discussion of the qualitative nature of the SUBSTITUTION errors in the following section of the present chapter. However, in concluding the present section it is necessary to consider the children's reading 'strengths' and 'weaknesses' as they were apparent from the analysis of their REFUSAL, OMISSION and INSERTION errors.

**Q3. Did the 'quality' of the children's REFUSAL, OMISSION and INSERTION errors reveal reading 'strengths' as well as reading 'weaknesses'?**

First of all it must be acknowledged that the attempt to answer the question posed above is based on a relatively small number of REFUSAL, OMISSION and INSERTION errors. Nevertheless it is clear from the examples of the children's REFUSAL, OMISSION and INSERTION errors which were included in previous chapters that the qualitative analysis of the nature of such errors was informative in demonstrating some of the reading strengths of the remedial readers who participated in the present author's study as well as some of their weaknesses. Furthermore the qualitative analysis of the REFUSAL, OMISSION and INSERTION errors on texts which differed in terms of their 'accessibility' paid dividends in providing a more rounded picture of the strengths and weaknesses in reading strategies than that which could have been obtained by the use of a conventional 'classroom-based' text. An overview of the relevant evidence obtained can best be presented by way of a 'strengths' and 'weaknesses' summary

in respect of each type of error.

### REFUSAL errors - evidence of reading weaknesses - and a possible reading strength

#### **WEAKNESSES**

REFUSAL errors could obviously be regarded as evidence of reading WEAKNESSES since they represented the inability (or the unwillingness) of a particular reader to make an oral attempt at the target word in question. When certain content words contained in a passage cannot be attempted there seems little doubt that its overall meaning will be liable to serious disruption.

In the present author's study the incidence of REFUSAL errors, though low, was more or less confined to the error-profiles of the readers with the lowest measured graphic decoding ability - the Poorer readers. This finding held true even though one of the reading passages - the SELF-text - was 'tailor-made' to ensure that the passage had both semantic and (oral) linguistic accessibility for individual readers. The obvious conclusion that could be drawn from the incidence of REFUSAL errors amongst the Poorer readers was thus that the inability to recognise or even attempt a particular target word was a direct result of a paucity of graphic skills.

#### **...and a possible STRENGTH**

Despite the evidence that REFUSAL errors must be regarded essentially as indicators of a weakness in reading strategies there was also an indication - evident from the higher proportion of these errors which occurred on the SELF-text - that they were possible indicators of a reading 'strength'. This was the ability, on the part

of the Poorer readers making REFUSAL errors, to use contextual cues to discriminate between a correct and incorrect response. The question in point is whether or not a REFUSAL error is more appropriate (more an indicator of strength than of weakness) than a 'guess' - a SUBSTITUTION error - in certain reading situations. In relation to the finding that the Poorer readers made a higher proportion of REFUSAL errors on their self-generated texts than on the PEER or CLASS-texts, REFUSAL errors could be viewed as a strength. The rationale of this argument lies in the conclusion that whilst 'guesses' relating to the friends and hobbies of their peers might stand a reasonable chance of being correct, 'guesses' about themselves in these terms were presumably limited by the need to make a SUBSTITUTION error not only 'fit' the graphic and contextual information in a general way but also to reflect the 'truth' of their own background knowledge of themselves as portrayed by the SELF-texts. For example, if the word 'coconut' occurred but could not be decoded in the following sentence in a PEER-text:

'We're going to make coconut cakes'

then a SUBSTITUTION of the word 'chocolate' might be seen by the reader as a guess which stood a reasonable chance of being correct. The substituted word has initial letter similarity with the target word and is semantically and syntactically appropriate within the linguistic context. If however the same situation occurred during a reading of the child's own text (the example is actually taken from BRIAN's refusal of the word 'coconut' on his SELF-text) the reader's existing knowledge (that chocolate cakes are not in fact going to be made) might well prevent a SUBSTITUTION error - a 'guess' which, despite its graphic similarity and semantic acceptability, the reader will know to be 'wrong'. A REFUSAL error might then result and might indicate that the visual and contextual information had been sampled

but had been rejected on semantic grounds which were finely tuned to the reader's own experience. In such a case the REFUSAL error would show more, not less discrimination in the reader's ability to make use of graphic and contextual information. A REFUSAL error, in such a situation, could thus be a sign of (relative) STRENGTH rather than (absolute) WEAKNESS.

OMISSION errors - reading weaknesses and reading strengths

## **WEAKNESSES**

The weaknesses associated with the OMISSION errors which occurred on the three types of text involved the children's tendency to sometimes disregard content and/or function words which were extremely salient cues as regards the intended meaning of the sentences in which they occurred. The effect of such OMISSIONS (as the examples of 'unacceptable' errors of this type presented in previous chapters have shown) could result in a change in the meaning of the sentence, or in syntactic disruption which meant that it made very little sense at all. A common-sense explanation of such errors, which involved the omitted words being disregarded rather than refused, would view the readers responsible as simply 'careless' or lacking in concentration. An alternative, though not incompatible explanation, in view of the fact that the Poorer readers made the highest proportion of 'unacceptable' OMISSION errors of this type, (particularly on the less accessible CLASS-text) might be that the apparent lapses in concentration were a result of their need to concentrate much harder on the visual and contextual cues than the children with the higher measured reading ability. Whatever the explanation for the 'unacceptable' omitted words there was no doubt that they constituted



a weakness in the reading strategies of the children responsible and, since a small number of such errors occurred on the self-generated texts, no simple relationship between the comprehensibility of the material to be read and the tendency to omit words could be identified. All that could be said was that the weaknesses apparent from unacceptable OMISSION errors were no less likely to be observed on material for which the children had particular background knowledge.

### **STRENGTHS**

The reading strengths apparent from the children's tendency to omit semantically/syntactically 'redundant' words from the text were concerned with their ability to read for meaning in an 'economical' way, i.e. to predict their way through text in what Goodman (1967) refers to as a 'top down' mode of reading. Such a strength, considered to be a feature of the accomplished reader, eliminates the need to process every single graphic and contextual cue offered by the material and can thus be taken as a sign of the strategic use of these textual cues. Since the majority of the OMISSION errors observed during the study undertaken by the present author were 'acceptable' errors it would be true to say that the strengths which could be associated with the children's tendency to omit words from the text were more apparent than the weaknesses described above.

## INSERTION errors - evidence of reading weaknesses and reading strengths

### **WEAKNESSES**

Weaknesses which were detrimental to the translation of the intended meaning of the text were evident when INSERTION errors were 'embellishments' which changed or severely disrupted the meaning of the sentence in which they occurred. Very few such unacceptable INSERTION errors were observed but where they did occur they seemed to provide clear examples of attempts at 'predictive' reading which had gone awry. Presumably this was due to a tendency to rely on the contextual cues provided by the text at the expense of the graphic information. When this happened (see MARK's error Chapter 13) the result was that the inserted word(s), although it was semantically and syntactically acceptable in one sense, had the effect of changing the intended meaning of the sentence in which it occurred.

### **STRENGTHS**

The reading strengths evident from the small number of INSERTION errors observed far outweighed the weaknesses described above and were very similar, in their 'predictive' capacity, to the strengths apparent from the 'acceptable' OMISSION errors. These 'acceptable' INSERTION errors could be seen to 'enhance' rather than disrupt the meaning of the sentences in which they occurred and they were very clear indications of the reader's ability to process text in an active rather than a passive way. (See for example CRAIG's acceptable INSERTION errors Chapter 7). It was of interest to note that the ability of the children to read constructively in this way was much

better demonstrated in connection with the self-generated texts than with the PEER or CLASS-texts. This finding was important since it demonstrated very clearly that the remedial readers concerned, despite their very low reading ages did possess certain reading strengths which would usually be associated with more able readers - albeit only in a certain reading situation.

### Generally

In answer to Q3 posed above it could be seen from the qualitative analysis of the children's REFUSAL, OMISSION and INSERTION errors that they provided evidence which was much more likely to illustrate reading strengths than reading weaknesses. Furthermore, it was apparent that the strengths in reading strategies which could be identified were comparable with those usually associated with successful or at least 'average' readers. An obvious question was thus posed. Why, given that the OMISSION and INSERTION errors (if not the REFUSALS) demonstrated aspects of reading proficiency to a greater degree than they demonstrated reading deficiency, were the children, as a group, such poor achievers that they were in need of remedial reading instruction? Whilst it is obvious that no mere oral reading error analysis, however sensitive or comprehensive, can provide a complete answer to such a question, the qualitative analysis of the children's SUBSTITUTION errors, reported below, was nevertheless able to identify some SPECIFIC WEAKNESSES in their reading strategies. The consideration of these, alongside the notion of the Poorer group's lack of flexibility of reading strategies in different reading situations, could at least go some way towards explaining the children's generally low reading ability. Whether their lack of

metacognitive knowledge about the reading strengths which they did possess also had a part to play in their need for 'remediation' is a question to be addressed in the final chapters of this thesis.

## SECTION 2: SUBSTITUTION errors and reading strengths and weaknesses

The previous section of the present chapter presented a description of the error patterns of the children on the SELF, PEER and CLASS-texts and reported the findings of the qualitative analysis of the REFUSAL, OMISSION and INSERTION errors which occurred on the three types of text in respect of the Better, Fair and Poorer reading ability groups. Suggestions were also put forward as to how the 'quality' of these errors demonstrated certain strengths as well as weaknesses in the children's reading strategies.

However, as was mentioned in the previous section, and as is evident from the decision of a large proportion of oral reading error researchers to concentrate their investigations exclusively on readers' tendency to substitute one word for another, it was the detailed analysis of the SUBSTITUTION errors which was most likely to be informative in connection with reading strengths and weaknesses. The present section of this chapter thus focusses on the findings of the qualitative analysis of these errors.

There were four main questions which could be asked in relation to the SUBSTITUTION error data from the three types of text. Each of these could be related to the overall question of whether, by presenting 'failing' readers with a text which provided optimum 'accessibility' in terms of background knowledge and vocabulary, it

was possible to identify reading strengths likely to be obscured by a conventional 'class-room' text. The four questions under investigation were:

- Q1. Did the analysis of the SUBSTITUTION errors reveal any 'general strengths' in the children's ability to make use of the graphic and contextual information from the texts?
- Q2. Were any 'specific weaknesses' or failures in reading strategies apparent?
- Q3. Were any 'general strengths' more apparent, and 'specific weaknesses' less apparent on the SELF-texts and PEER-texts as opposed to the CLASS-texts?
- Q4. Did any observed 'general strengths' and 'specific weaknesses' have a simple relationship with reading ability or were interactions between text-type and reading ability apparent?

In relation to question 4 the notion of the flexibility of reading strategies was of particular interest, i.e. Were any ability differences, apparent in the children's 'general strengths' and 'specific weaknesses', least pronounced on the more accessible SELF-text? Of particular interest here was the question of whether or not the qualitative nature of the Poorer readers' errors on their own texts was comparable with that of the errors of the Better and/or Fair readers on the CLASS-texts. If so it could be suggested that the children with the lowest reading ages lacked a flexibility in applying successful reading strategies rather than a lack of such strategies per se. One consequence of such a finding would be to prompt the

question of why such readers lacked flexibility and whether this might be related in some way to their metalinguistic knowledge and attitudes towards reading - a question which is addressed in subsequent chapters of this thesis. A second (broader) consequence of such a finding, if it could be generalized to larger samples of remedial readers, might be to direct the attention of researchers and teachers towards the aims and purposes of remedial reading instruction, i.e. What is it that such instruction should seek to remedy? Is it a reader's total lack of certain strategies - or the lack of flexibility in using them successfully in different reading situations? Although answers to such questions are beyond the scope of the research reported here they are the kind of questions which are prompted by it.

In reviewing the findings of the analysis of the children's SUBSTITUTION errors on the SELF, PEER and CLASS-texts each of the four questions mentioned at the beginning of the present section will be addressed in turn. Thus the first two aspects of the findings to be considered are concerned with the questions of the identification of 'general strengths' and 'specific weaknesses' in the children's ability to make use of the graphic and contextual information from the three types of text.

**Q1. Did the analysis of the SUBSTITUTION errors reveal any 'general strengths' in the children's ability to make use of the graphic and contextual information from the texts?**

When the SUBSTITUTION error data from the SELF-texts, PEER-texts and CLASS-text were pooled the analysis of the errors revealed several findings which could be regarded as indicators of the children's general reading strengths. For example, there was good evidence to suggest that the readers had attended to all three types of textual information - the graphic, the semantic, and the syntactic - and that

efforts to synthesise this information had been made. The 'general strengths' in the children's reading strategies, apparent from the detailed analysis of the total number of SUBSTITUTION errors (1265), are summarised in Table 15.13 below.

Table 15.13      The 'general reading strengths' indicated by the analysis of the SUBSTITUTION errors made on all texts

General reading strengths	SUBSTITUTION error similar/acceptable etc. (texts pooled)
1) High levels of the general GRAPHIC SIMILARITY of the SUBSTITUTION errors to the target words	86%
2) High levels of the general SEMANTIC ACCEPTABILITY of the SUBSTITUTION errors	91%
3) High levels of the general SYNTACTIC ACCEPTABILITY of the SUBSTITUTION errors	94%
4) High levels of COMBINED-SOURCE as opposed to SINGLE-SOURCE errors	83%
5) High levels of the specific SEMANTIC ACCEPTABILITY of the SUBSTITUTION errors 'WITH PRECEDING CONTEXT'	88%
6) High levels of the specific SYNTACTIC ACCEPTABILITY of the SUBSTITUTION errors 'WITH PRECEDING CONTEXT'	92%
7) High levels of the specific SEMANTIC ACCEPTABILITY of the SUBSTITUTION errors 'WITH SUCCEEDING CONTEXT'	80%
8) High levels of the specific SYNTACTIC ACCEPTABILITY of the SUBSTITUTION errors 'WITH SUCCEEDING CONTEXT'	84%

As Table 15.13 shows the general levels of graphic similarity and semantic and syntactic acceptability were very high indicating that the readers were seldom likely to concentrate on just one source of textual information in producing a SUBSTITUTION error. This interpretation of the data was further confirmed by the high percentage of COMBINED-SOURCE as opposed to SINGLE-SOURCE errors, i.e.

errors which indicated that both the graphic and the contextual could have been used in producing the substituted word. ('Could have' because, as mentioned in Chapter 5, it is not possible to be sure, even when a SUBSTITUTION error is both graphically similar and contextually acceptable that both sources of information have been sampled.)

Three features of the data illustrated by Table 15.13 deserve particular comment. First of all it is interesting to note that the level of general GRAPHIC SIMILARITY was slightly lower than the levels of general SEMANTIC and SYNTACTIC acceptability. This might be taken as a preliminary indicator that the children showed a tendency to be more adept at processing the contextual rather than the graphic cues provided by the texts. (A finding subsequently confirmed by the results of the 'out-of-context' tasks which will be reported in the following chapter.) Secondly it was apparent from the data that SYNTACTIC cues were generally slightly more successfully processed than SEMANTIC cues. This discrepancy between the SEMANTIC and SYNTACTIC ACCEPTABILITY data perhaps needs a word of explanation at this point - particularly since some oral reading error researchers, notably Potter (1982) have maintained that the semantic and syntactic acceptability of errors necessarily go hand in hand given that 'sense' depends on syntax. Whilst this may be true in strict linguistic terms there are good reasons for recording the use of semantic and syntactic cues separately in any detailed analysis of oral reading errors since it does not necessarily follow that syntactically acceptable SUBSTITUTION errors are always entirely semantically acceptable. The following example will clarify this point.



fourteen  
 'We had ~~forty~~ hens and twenty chickens'

In the sentence above the SUBSTITUTION error 'fourteen' was both semantically and syntactically acceptable at the levels of 'preceding' and 'succeeding' context, and at the 'within sentence' level. However, when the 'within passage' level of semantic acceptability was considered a discrepancy arose. Syntactically the SUBSTITUTION of 'fourteen' for 'forty' was obviously still acceptable but semantically at this level it must be considered 'unacceptable' since it changed the intended meaning of the text and was therefore likely to obscure the reader's overall comprehension of its 'message'. (An alternative example - where a SUBSTITUTION may be classified as semantically acceptable (at all levels), but syntactically unacceptable, is provided by the occasion where a reader (or speaker) says "We <sup>was</sup> ~~were~~ going...")

The third feature of the data illustrated by Table 15.13 which deserves special mention is concerned with the finding that the detailed analysis of the semantic and syntactic acceptability of the children's errors showed that it was only at the 'with PRECEDING' and 'with SUCCEEDING' context levels of analysis that the children were particularly successful in the processing of contextual cues. (In other words when the high 'general' level of acceptability was further broken down into acceptability 'WITHIN PASSAGE', 'WITHIN SENTENCE', 'WITH PRECEDING' and 'WITH SUCCEEDING' context, lower acceptability levels were observed for 'within PASSAGE' and 'within SENTENCE' levels. (This is a point to be discussed later with reference to 'specific weaknesses' displayed by the readers.)

In summary, however, and in answer to Q1 posed above, it could be seen that the analysis of the children's SUBSTITUTION errors did reveal a number of 'general strengths' in their ability to make use of the graphic and contextual cues provided by the texts. Viewed as a group, and with SUBSTITUTION errors on all texts pooled, there was good evidence to suggest that the 52 remedial readers possessed reading strategies which were compatible with those of more proficient readers described by researchers such as Goodman (1967) and Smith (1978).

Nevertheless the SUBSTITUTIONS analysis also revealed several features of the children's errors which could be regarded as indicating 'specific weaknesses' in their ability to successfully attend to and interpret graphic and contextual cues. These are described below with reference to the second of the four questions posed at the beginning of the present section of this chapter.

**Q2. Were any 'specific weaknesses' or failures in reading strategies apparent from the analysis of the SUBSTITUTION errors on the three types of text?**

As well as indicating some 'general strengths' in the children's reading strategies as outlined above, the analysis of the SUBSTITUTION errors made on the SELF, PEER and CLASS-texts also indicated a number of areas of 'specific weakness'. For example, although the proportion of substituted words which had some element of graphic similarity with the target words was 86% the more detailed analysis, taking 'BEGINNING', 'MIDDLE' and 'ENDING' similarity into account, revealed the children's errors in a much less positive light. A relatively low percentage of errors with 'BEGINNING similarity' (73%) and a particularly low percentage which had final letter similarity with the target word (only 27%) showed that the children were unable (or

unwilling) to process many of these most salient graphic cues successfully. As the examples of errors included in previous chapters have shown the children's apparent lack of attention to the graphic 'endings' of words resulted in a good many reading inaccuracies on the part of some children. These and other specific weaknesses which could be identified from the analysis of the SUBSTITUTION errors are summarised in Table 15.14 below.

Table 15.14      The 'specific reading weaknesses' indicated by the SUBSTITUTION error analysis

Specific reading WEAKNESSES	SUBSTITUTION errors similar/acceptable etc. (texts pooled)
1) Relatively low levels of the GRAPHIC 'BEGINNING' similarity of the SUBSTITUTION errors with the target words.	73%
2) Particularly low levels of the GRAPHIC 'ENDING' similarity of the SUBSTITUTION errors with the target words	27%
3) Low levels of the SEMANTIC ACCEPTABILITY of the SUBSTITUTION errors 'WITHIN PASSAGE'	43%
4) Relatively low levels of the SEMANTIC ACCEPTABILITY of the SUBSTITUTION errors 'WITHIN SENTENCE'	64%
5) The production of NON-WORDS as SUBSTITUTIONS for target words	4%

As Table 15.14 shows, as well as a relatively low level of SUBSTITUTION errors which showed graphic BEGINNING similarity with the target words, and a particularly low level of errors with graphic ENDING similarity, the semantic acceptability of the SUBSTITUTIONS 'WITHIN PASSAGE' and 'WITHIN SENTENCE' was also low enough to indicate a specific weakness in the children's reading strategies. Thus, whilst there was clear evidence that the readers had the ability to make good use of the contextual cues immediately surrounding a

particular target word - i.e. the 'PRECEDING' and 'SUCCEEDING' context - it was apparent that a much smaller number of their SUBSTITUTION errors 'made sense' when the sentence was taken as the unit of analysis. Moreover, when the all-important 'PASSAGE' level was taken into account the data showed that 43% of the substituted words had been classified as 'unacceptable' - i.e. likely to disrupt the intended meaning of the passages concerned. Although no attempts were made to investigate the children's comprehension of the reading passages it seems safe to say that the 'WITHIN SENTENCE' and 'WITHIN PASSAGE' levels of semantic acceptability were low enough to indicate substantial problems concerning the understanding of intended meaning of the material. The specific weaknesses concerned with the semantic acceptability of the SUBSTITUTION errors could thus be regarded as extremely problematic aspects of the children's reading strategies.

Finally the production of NON-WORDS, though their occurrence was very low (4%), has been included in the list of 'specific weaknesses' since this type of error, however infrequent, must obviously be considered to represent a breakdown in the successful synthesis of graphic and contextual information. It may be remembered from the examples of NON-WORDS provided in previous chapters - 'catabags'/cabbages, 'troochers'/trousers - that these errors always showed a high degree of graphic similarity with the target words for which they were substituted. This in turn would indicate that the children concerned were allowing graphic cues to completely over-ride the contextual cues provided by the text (and by their own experience with language). The occurrence of NON-WORDS, usually associated with much younger less-experienced 'language-users', could thus be regarded as an additional 'specific weakness' in the error-profiles of some of the 11 year olds taking part in the present author's study.

Summarising the SUBSTITUTIONS analysis at this point it can be seen that the data gave clear indications of both strengths and weaknesses in the children's ability to make use of the graphic and contextual information provided by the reading material. For the most part the 'strengths' were associated with a general willingness to attend to and process graphic and contextual cues, and the high percentage of 'COMBINED-SOURCE' as opposed to 'SINGLE-SOURCE' errors could be regarded as indicators of attempts to synthesise these sources of information. However the 'specific weaknesses' which could also be identified showed that this synthesis was often likely to be unsuccessful since in a real sense errors which are only semantically/syntactically acceptable at the 'PRECEDING' and 'SUCCEEDING' context levels are not acceptable at all. If the overall purpose of reading is to receive and comprehend the intended meaning of a text a high proportion of errors which are semantically unacceptable within the context of the whole passage - however graphically similar and syntactically acceptable they may be - can only be regarded as a serious handicap. Whether this problem, and the other associated 'specific weaknesses' identified above were always more evident in the error-profiles of the lowest ability readers, irrespective of text-type, is the subject of the remainder of this chapter.

Questions 3 and 4 above are essentially concerned with the investigation of whether or not the 'general strengths' and 'specific weaknesses' of the remedial readers were influenced by the type of reading material presented, and/or by the children's differing degrees of low reading ability. In this connection it was of particular interest to discover whether the children with the lowest ability - the Poorer group - could do as well on their own self-generated texts

as could the Better and Fair group readers, but did less well on the other texts. If this were shown to be the case it would indicate a lack of flexibility in the successful strategies of the poorest readers in different reading situations rather than a lack of successful strategies per se - a potentially important distinction as far as suitable remedial instruction is concerned as has been suggested above.

**Q3. Were the 'general strengths' more apparent, and 'specific weaknesses' less apparent on the SELF-texts than on the PEER and CLASS-texts?**

As stated at the beginning of the present chapter, any attempts to draw conclusions from 'strict' comparisons between the children's performances on the three types of text must be cautious due to the time which elapsed between text readings (i.e. if, in some respect, readers did better on the CLASS-text than the SELF-text, it could not be ascertained whether this might be due to the differences between texts or due to some change in the children's abilities over time). However, on the one hand the Schonell tests gave a rough indication that reading ability (or at least word-recognition skills) had changed very little over the period of the study. On the other hand any time-related bias towards improvement should always have favoured performances on the CLASS-text as opposed to the SELF-text since the CLASS-text was the final text to be presented. Bearing these two factors in mind it did seem worthwhile to compare the children's 'general strengths' and 'specific weaknesses' on each type of text, i.e. if some aspect of their 'general strengths' could be shown to be 'better' on the SELF-text than the CLASS-text this could be translated in terms of text-accessibility rather than time-related improvement.

Looking first at the 'general strengths' as they related to performances on the SELF, PEER and CLASS-text Table 15.15 shows an interesting pattern of findings in as much as 5 of the 8 identified reading strengths were most apparent when their children read their own self-generated texts. The percentages refer to the proportion of errors which were graphically 'similar' to the target words or 'acceptable' semantically and syntactically. A series of Chi-square tests (performed on the raw data) was used to give an indication of whether proportions of acceptable/unacceptable errors differed significantly between texts. (The relevant Chi-square values are available in Appendix B).

Table 15.15      General reading STRENGTHS as they were apparent on each type of text

General STRENGTH	SELF text	PEER text	CLASS text	Statistical significance
1) General GRAPHIC SIMILARITY	77.0	83.0	97.0**	p < 0.001
2) General SEMANTIC ACCEPTABILITY	97.0*	85.0	89.0	p < 0.001
3) General SYNTACTIC ACCEPTABILITY	97.0*	91.0	94.0	p < 0.02
4) COMBINED-SOURCE errors	76.0	78.0	92.0**	p < 0.001
5) SEMANTIC ACCEPTABILITY - 'PRECEDING'	95.0*	85.0	85.0	p < 0.001
6) SYNTACTIC ACCEPTABILITY - 'PRECEDING'	95.0*	90.0	90.0	p < 0.05
7) SEMANTIC ACCEPTABILITY - 'SUCCEEDING'	88.0*	79.0	81.0	p < 0.01
8) SYNTACTIC ACCEPTABILITY - 'SUCCEEDING'	85.0	84.0	84.0	N.S.

\*      strongest performance on SELF-texts (5)

\*\* strongest performance on CLASS-text (2)

As table 15.15 indicates 5 of the 8 general reading strengths were most apparent on the SELF-text and each of these were related to the successful use of contextual as opposed to graphic information.

This finding was thus compatible with the notion that the more 'accessible' SELF-texts would be likely to provide the children with the optimum opportunity to process contextual cues.

However, 2 of the 8 identified general strengths were most apparent on the CLASS-text. As the table indicates these were concerned with the general GRAPHIC similarity of the SUBSTITUTION errors and with the (probable) concurrent use of both the graphic and the contextual information, i.e. COMBINED-SOURCE errors. The time-factor variable (time which elapsed between the SELF and CLASS-text readings) mentioned above meant that this finding could only be interpreted in a speculative way. However, it does suggest perhaps that when a text is less accessible in terms of a reader's background knowledge of its content and vocabulary, more particular attention is paid to the graphic information, and that more strenuous efforts are also made to synthesise this information with the information available from the contextual cues. A case perhaps of a reader needing to be on his or her graphic and contextual 'toes' in order to make sense of the text.

Looking at the pattern of errors concerned with the specific weaknesses that had been identified from the SUBSTITUTION analysis Table 15.16 revealed statistically significant variations in the proportions of errors judged acceptable/unacceptable in respect of each weakness when the three kinds of text were compared.

As Table 15.16 shows, 3 of the 5 specific weaknesses identified in the children's reading strategies were less apparent on the SELF-texts than on the PEER and CLASS-texts. Each of these were concerned with the successful processing of contextual rather than



graphic information, i.e. the semantic acceptability of the substituted words at the 'WITHIN PASSAGE' and 'WITHIN SENTENCE' levels and the tendency to produce 'NON-WORDS' which, as mentioned above, indicated the over-riding of contextual by graphic cues. A second interesting feature of the 'specific weaknesses' data illustrated by Table 15.16 concerned the indication that the weaknesses related to the GRAPHIC BEGINNING and GRAPHIC ENDING similarity of the substituted words with the target words were least apparent on the CLASS-text. This finding, suggesting as it did that more attention (or at least more successful

Table 15.16      Specific reading WEAKNESSES as they were apparent on each type of text

Specific WEAKNESS	SELF text	PEER text	CLASS text	Statistical significance
1) GRAPHIC 'BEGINNING' SIMILARITY	65.0	74.0	80.0**	p < 0.001
2) GRAPHIC 'ENDING' similarity	21.0	24.0	36.0**	p < 0.001
3) SEMANTIC acceptability 'WITHIN PASSAGE'	63.0*	43.0	23.0	p < 0.001
4) SEMANTIC acceptability 'WITHIN SENTENCE'	74.0*	60.0	59.0	p < 0.001
5) NON-WORDS	1.0*	5.0	3.0	p < 0.01

\* least apparent on the SELF-texts (3)

\*\* least apparent on CLASS-texts (2)

attention) was paid to the graphic cues on the less 'accessible' passage from the class-reader, lent more support to the point made above in respect of reading strengths and GENERAL graphic similarity, i.e. general strengths relating to the processing of this kind of information were more marked on the CLASS-text than on the SELF and PEER-texts.

In summary, the analysis of the SUBSTITUTION error data in relation to Q3 posed above showed very clearly that the relative success and failure of the children's reading strategies could vary according to the nature of the reading material. The point worth emphasising here is that an observation of the children's errors on just one kind of text, for example a conventional 'school-text', would have suggested that, as a group, the readers had a tendency to pay more attention (or at least more successful attention) to the graphic information and less attention to the contextual information than the overall examination of their errors on the three types of text revealed.

**Q4. Did any observed 'general strengths' and 'specific weaknesses' appear to have a simple relationship with reading ability or were interactions between text-type and reading ability apparent?**

The crux of question 4 was whether or not the SUBSTITUTION errors of the Poorer readers could always be shown to be qualitatively the 'worst', in terms of the 'general strengths' and 'specific weaknesses' identified above, irrespective of text-type. If their errors, or those of the Fair readers, were sometimes as 'good' as those of the Better readers it could be suggested that it was not so much that they lacked the reading strategies possessed by the children with the relatively higher reading ability - rather that it was the flexibility to apply those strategies in certain situations which was lacking. It should perhaps be acknowledged here, however, that whilst the question under investigation could be framed very simply, the issue of the flexibility or otherwise of reading strategies is undoubtedly very complex. For example, since all the children in the sample were 'remedial' readers one might assume that a lack of flexibility, given that this was a tenable notion, might affect them all to some degree but: In different ways? According to different reading materials? and

so on. However, it seemed worthwhile to pursue the question even though it could only be investigated in a simple way.

Tables 15.17 and 15.19 present an overview of the 'WORST' performance for each aspect of the children's 'general strengths' and 'specific weaknesses' according to text-type and ability. The 'worst' performance was defined as the performance of the group which achieved the lowest percentage of SUBSTITUTION errors with general GRAPHIC similarity, general SEMANTIC acceptability (and so on for the 8 'general strengths' and 5 'specific weaknesses' which had been identified). Detailed tables of percentage scores are then provided in respect of those aspects of performances which were shown to be of particular interest. (Unfortunately no parametric tests (i.e. ANOVA) capable of indicating statistically significant text x ability interactions could be applied to the SUBSTITUTION error data since it was nominal in origin. Nevertheless, a series of Chi-square tests (performed on the raw data) was helpful in indicating statistically significant variations in the frequencies of the proportions of acceptable/unacceptable errors according to ability. The relevant Chi-square values are available in Appendix B). Before presenting the tables it may be useful to note that if a simple relationship existed between reading ability groups and 'general strengths' and 'specific weaknesses' the Poorer group readers should appear in each row and column of the tables indicating that their 'strengths' were always least apparent and their 'weaknesses' always most apparent (i.e. their group performance was always 'worst'). The letters N.S. indicate that no statistically significant variations across the groups were indicated by a Chi-square test. For example, line 1 of table 15.17 shows that the Better group readers gave the WORST performance in terms of General GRAPHIC SIMILARITY, when only the SELF-text (and

ALL-text) data were considered, whilst no statistically significant differences between the three ability groups were recorded with respect to this STRENGTH on the PEER and CLASS-texts.

Table 15.17      General STRENGTHS: 'WORST' performances on each type of text for the three ability groups

General STRENGTHS—————→ 'WORST' group PERFORMANCES on:				
	SELF text	PEER text	CLASS text	ALL texts
1) General GRAPHIC SIMILARITY	Better group (p<0.001)	N.S.	N.S.	Better group (p<0.01)
2) General SEMANTIC ACCEPTABILITY	N.S.	N.S.	Poorer group (p<0.05)	N.S.
3) General SYNTACTIC ACCEPTABILITY	N.S.	N.S.	N.S.	N.S.
4) COMBINED-SOURCE errors	Better group (p<0.001)	N.S.	N.S.	Better group (p<0.05)
5) SEMANTIC ACCEPTABILITY: 'PRECEDING'	N.S.	N.S.	Poorer group (p<0.05)	N.S.
6) SYNTACTIC ACCEPTABILITY: 'PRECEDING'	N.S.	N.S.	Poorer group (p<0.05)	Poorer group (p<0.002)
7) SEMANTIC ACCEPTABILITY: 'SUCCEEDING'	N.S.	N.S.	Poorer group (p<0.05)	Poorer group (p<0.05)
8) SYNTACTIC ACCEPTABILITY: 'SUCCEEDING'	Poorer group (p<0.05)	N.S.	Poorer group (p<0.05)	Poorer group (p<0.05)

Bearing in mind that the basic question being asked of the data displayed in Table 15.17 is whether or not the Poorer readers always gave the 'WORST' performance for each aspect of general reading strengths on each type of text, the overall finding was very clear-cut - the Poorer readers often did equally as well as the Better and Fair

group children (i.e. wherever the letters N.S. appear in a particular 'text-column'). There was thus no evidence that a simple relationship existed between reading ability and general reading strengths irrespective of text-type. Putting this finding at its simplest it can be seen from Table 15.17 that the Poorer group readers appear as the 'WORST' performers only 9 times out of a possible 32.

A second question which might be asked of the data is whether, leaving aside the ALL-text data, the 'WORST' performances of the Poorer readers were affected by text-type. Again the overall finding was very clear - 5 of the 6 'WORST' performances recorded for the Poorer group occurred on the least 'accessible' CLASS-text and only 1 on the SELF-texts, designed as they were, to provide optimum accessibility in terms of background knowledge and vocabulary. This finding could be interpreted as showing (with the exception of the SYNTACTIC acceptability of the SUBSTITUTION errors at the level of 'SUCCEEDING' context) that whereas the general strengths of the Poorer readers were equivalent to those of the other children on the SELF and PEER-texts, the CLASS-text material had a detrimental effect on the success of their reading strategies. Even so the Poorer readers' general strengths were equivalent to those of the Better and Fair readers as far as the general GRAPHIC SIMILARITY, and the general SYNTACTIC ACCEPTABILITY of their errors was concerned, and their proportion of COMBINED-SOURCE as opposed to SINGLE-SOURCE errors was also unaffected by the less accessible CLASS-text. All in all there was good evidence to suggest that it was not that the general strengths apparent in the reading strategies of the Poorer readers were less effective per se - rather that these children were less successful in applying such strategies on the more conventional and less 'accessible' CLASS-text. Putting this interpretation of the data

in its simplest form we could say that the general reading strengths of the Poorer readers were less 'portable' across the different texts than those of the Better and Fair group children.

Before moving to a consideration of the 'WORST' performances concerning the 'specific WEAKNESSES' and the flexibility of the children's reading strategies, one further line of enquiry was explored in respect of the 'general STRENGTHS' data illustrated in Table 15.17. This was involved with the question of whether, given that the Better readers appeared as 'WORST' performers in terms of general GRAPHIC SIMILARITY and COMBINED-SOURCE errors on the SELF-text, there were aspects of general reading strengths where the Poorer readers had actually achieved the best performance of all of the three ability groups. If this were found to be the case it would give an indication that the accessibility of the self-generated texts actually benefited the Poorer readers most - at least as regards these two aspects of their general reading strengths. Table 15.18 below reproduces the relevant data from Chapter 8 to show that the performances of the Poorer readers concerning these two aspects of their SUBSTITUTION errors had in fact been the 'BEST' of the three ability groups.

Table 15.18 General GRAPHIC similarity and COMBINED-SOURCE errors on the SELF-text for each of the three ability groups

	Better (n19)	Fair (n16)	Poorer (n17)	$\chi^2$ significance
General GRAPHIC similarity	61.0	66.0	83.0	p < 0.001
COMBINED-SOURCE errors	64.0	59.0	83.0	p < 0.001

Viewed as a whole then the data presented in Tables 15.17 and 15.18 gave a clear indication that no simple relationship existed between general reading strengths and reading ability. Depending on the type of material presented Poorer readers could do just as well as, or even better than, the Better and Fair group readers but their strengths were much less apparent than those of the other children when only their performance on the CLASS-text was considered.

Looking next at whether the emerging picture of a lack of flexibility in the reading strategies of the Poorer readers was apparent when 'specific WEAKNESSES' were considered, Table 15.19 provides the relevant data and shows the 'WORST' performances in respect of ability groups and text-types. Again it is worth noting that if a simple relationship were to exist between reading ability and 'specific WEAKNESSES' then the Poorer readers' group should

Table 15.19      Specific WEAKNESSES: 'WORST' performances on each type of text for the three ability groups

Specific WEAKNESSES —————→ 'WORST' group performances on:				
	SELF text	PEER text	CLASS text	ALL texts
1) GRAPHIC 'BEGINNING' SIMILARITY	N.S.	N.S.	N.S.	N.S.
2) GRAPHIC 'ENDING' SIMILARITY	N.S.	N.S.	N.S.	N.S.
3) SEMANTIC: 'WITHIN PASSAGE'	N.S.	N.S.	Poorer group (p<0.001)	Poorer group (p<0.01)
4) SEMANTIC 'WITHIN SENTENCE'	N.S.	N.S.	Poorer group (p<0.001)	Poorer group (p<0.001)
5) NON-WORDS	N.S.	N.S.	N.S.	N.S.

appear in each row and in each column of the table, thus indicating that their performance was the worst of the three groups.

As with the 'general STRENGTHS' data the 'specific WEAKNESSES' data showed a very clear finding that reading ability and the quality of the SUBSTITUTION errors were not related in any simple way. As Table 15.19 shows, each of the specific WEAKNESSES of the readers was equally apparent on the SELF and PEER-text, and also, as regards the lack of GRAPHIC 'beginning' and 'ending' similarity and the production of NON-WORD errors, on the CLASS-text. Three clear findings thus emerged from the 'specific WEAKNESSES' data as it could be related to reading ability and text-type. First of all it was very evident that the Poorer readers were by no means always the 'WORST' performers as regards the 'specific WEAKNESSES' identified through the analysis of the SUBSTITUTION errors - they appear only 4 times in Table 15.19 out of a possible total of 20 times. Secondly, it was clear that the only statistically significant variations in the performance of the three ability groups were related to aspects of the SEMANTIC processing of textual cues on the CLASS-text. Thirdly, there was a clear-cut finding that the generally low levels of semantically acceptable 'WITHIN PASSAGE' and 'WITHIN SENTENCE' SUBSTITUTION errors on each text (reported above) might be regarded as a particular feature of the error-profiles of the lowest ability children when they were presented with a conventional text.

Finally, in relation to Q4 posed above, some conclusions can be drawn about the notion of the possible differences in the flexibility of the reading strategies of the Better, Fair and Poorer readers. Three questions can be asked. Was the provision of the 'tailor-made' SELF-texts able to demonstrate that the SUBSTITUTION errors of the



Poorer readers indicated reading strengths which would not have been as apparent if only the conventional CLASS-text had been used? Were specific weaknesses less apparent for the Poorer children on the SELF-text than on the PEER and CLASS-texts? How did the PEER-text fit into the picture? These questions can best be answered by presenting a summary table which indicates where the performances of the Poorer readers were equivalent (at least in statistical terms) to those of the Better and Fair group children on each type of text.

Table 15.20 Reading STRENGTHS and WEAKNESSES: instances where the performance of Poorer readers was equivalent to that of the Better and Fair groups

EQUIVALENT PERFORMANCES (✓) by POORER readers on each text			
	SELF text	PEER text	CLASS text
<u>GENERAL STRENGTHS</u>			
1) General GRAPHIC SIMILARITY	✓	✓	✓
2) General SEMANTIC ACCEPTABILITY	✓	✓	×
3) General SYNTACTIC ACCEPTABILITY	✓	✓	✓
4) COMBINED-SOURCE ERRORS	✓	✓	✓
5) SEMANTIC ACCEPTABILITY: 'PRECEDING'	✓	✓	×
6) SYNTACTIC ACCEPTABILITY: 'PRECEDING'	✓	✓	×
7) SEMANTIC ACCEPTABILITY: 'SUCCEEDING'	✓	✓	×
8) SYNTACTIC ACCEPTABILITY: 'SUCCEEDING'	×	✓	×
<u>SPECIFIC WEAKNESSES</u>			
1) GRAPHIC 'BEGINNING' SIMILARITY	✓	✓	✓
2) GRAPHIC 'ENDING' SIMILARITY	✓	✓	✓
3) SEMANTIC ACCEPT.: 'WITHIN PASSAGE'	✓	✓	×
4) SEMANTIC ACCEPT.: 'WITHIN SENTENCE'	✓	✓	×
5) NON-WORDS	✓	✓	✓

The summary table shows clearly that the majority of the Poorer group's performances were equivalent to those of the Better and Fair group children with regard to the SELF-text and all performances were equivalent on the PEER-text whereas the CLASS-text provoked 7 instances where the 'quality' of the Poorer reader's errors was the lowest. It was clear then that any differences between the groups in terms of the 'acceptability' of their SUBSTITUTION errors would have been exaggerated if only the conventional CLASS-text had been used and that it was not so much the case that the lowest ability readers could not make as good a use of the graphic and contextual information as the other children - rather that a lack of the flexibility of these skills across different reading situations indicated that they did not. Whilst it might have been expected that the self-generated texts would provide such children with the optimum opportunity to display any reading strengths they possessed, it was interesting to note that the PEER-text data, despite the fact that all the children's performances were generally lower on this text than on the SELF-texts, showed that each of the various aspects of the children's performances were equivalent.

It is important to mention here however, that an alternative explanation for the lower 'quality' of the Poorer readers' SUBSTITUTION errors deserves some consideration, i.e. perhaps the CLASS-text was simply more linguistically difficult than the SELF and PEER-texts. This explanation seemed unlikely since, as reported earlier in this Chapter, there were no statistically significant within-group differences in the number of errors which had occurred on each type of text. Nevertheless, it seemed important to explore this potential problem further by calculating readability measures for the SELF/PEER and CLASS-text. (This despite the fact that the general

problems associated with readability measures might be exacerbated by the 'nature' of the SELF/PEER texts which had been produced from transcripts of oral language). Consequently the Mugford (1970) readability measure was calculated for each of the SELF/PEER texts, and for the CLASS-text. These calculations showed that very little difference existed between the 'difficulty index' scores of the texts. The mean 'difficulty index' of the SELF-texts (and thus the PEER-texts) was 8.8 (s.d. 0.6) whilst the corresponding measure for the CLASS-text was 9.0 (s.d. 0.7). It thus seemed very unlikely that differences in the 'quality' of the children's errors were simply due to differences in the linguistic difficulty of the texts and the notion that the greater 'accessibility' of the language of the SELF and PEER-texts was an important distinguishing factor in terms of the 'quality' of their SUBSTITUTION errors was therefore supported.

In conclusion, it was clear from the SUBSTITUTION error analysis on the three types of text, with respect to the children's general reading 'strengths' and specific reading 'weaknesses', that a lack of flexibility of skills, rather than a lack of skills per se, was the factor which distinguished the children with the largest discrepancy between their 'real' ages and reading ages from their higher ability age-mates.

In the next chapter additional and complementary information about the children's ability to make use of contextual information is reported. The investigation in question made use of 'out-of-context' reading tasks which focussed on 'difficult' words which had been read correctly within the context of the SELF, PEER and CLASS-texts. The question posed was whether or not these words could be recognised on a later occasion when they were presented in isolation. Essentially

then these tasks were designed to investigate the extent of the children's 'reliance' (or otherwise) on contextual cues during their initial (correct) reading of some of the words which had occurred within the context of the SELF, PEER and CLASS-texts.

## CHAPTER 16

### THE RESULTS OF THE 'OUT-OF-CONTEXT' TASKS

The qualitative analysis of the children's SUBSTITUTION errors on the SELF, PEER and CLASS-texts provided information which gave a clear indication of their ability to make use of contextual as well as graphic cues. For example, although specific weaknesses in reading strategies were identified, a very high proportion of the errors had some degree of semantic and syntactic acceptability. This demonstrated that readers in each of the three reading ability groups were both able and willing to make use of the linguistic context.

The present chapter reports on additional investigation which aimed to complement the information gained through the study of errors by shifting the focus towards the importance (or otherwise) of the ability to make use of contextual and graphic cues when words had been read correctly. A good deal of insight into reading strategies can be gained through the sole study of errors as previous chapters have shown. Nevertheless, errors, by their very nature, are examples of reading strategies gone awry - albeit to a greater or lesser degree. What additional information could be learned about the children's reading strategies by focussing on their use of contextual and/or graphic cues when words had been read correctly? The questions involved in this investigation were simple enough and centred on the extent to which contextual cues had been necessary (rather than just 'helpful') when words had been read correctly within the context of the SELF, PEER and CLASS-texts. More specifically, would it be true to say that some readers appeared to have been dependent on the use of contextual cues? And, since the

SELF, PEER and CLASS-texts provided a good opportunity to study the role of text 'accessibility' in the use of contextual information, did any demonstrated context-dependency vary according to text-type? In attempting to provide answers to these questions the 'out-of-context' tasks, described in Chapter 4, were devised by the present author. The rationale behind the use of lists of 'difficult words previously read correctly' and the definition of 'difficult' is described in detail in the above-mentioned chapter but for the sake of convenience it can be reiterated here that the methodology involved presenting each reader with lists of 20 'difficult words' taken from each of his or her previously read SELF and PEER-text, and from the CLASS-text. The important point here was that the words reproduced in the 'list' condition had already been read correctly when they appeared within the context of the texts from which they were drawn. Errors which occurred in the 'list' conditions could thus be regarded as an indication that the reader in question had been dependent on the use of contextual cues during the previous initial correct reading of the words when they occurred in context. In other words, the inference to be drawn was that the reader's graphic skills alone did not allow the words to be re-read correctly when they were presented in isolation. It is important to note here, however, that it is not being suggested that errors made in the 'list' condition could be taken to illustrate an either graphic or contextual processing strategy concerning the correct reading of the words when they occurred in the context of the reading passages i.e. a child who made no errors in the 'list' condition could not necessarily be regarded as not having made use of contextual information in order to produce the previous correct reading of the words when they appeared within the passage. Rather the ability to re-read the words correctly when they were presented in isolation

could indicate only that the use of contextual information had not been of crucial importance to the 'solving' of the target word in question on the previous occasion.

The questions which were under investigation were as follows:

- Q. How far did reading accuracy appear to depend upon the ability to use contextual as well as graphic information?
- Q. How was any apparent dependency on contextual cues affected by a reader's background knowledge of textual materials?
- Q. Was there a relationship between reading ability and any demonstrated 'context-dependency' in respect of the three types of reading text presented?

It is worth noting here that all 52 of the children who took part in the 'out-of-context' tasks could be regarded as 'poor' readers and that if, as some researchers suggest (Goodman 1973, Smith 1978) poor readers are able to make little use of contextual information, few errors should have been observed in the 'list' condition irrespective of the type of text in question. Furthermore, the errors of the Poorer readers' group might be expected to be fewer than those of the Fair and Better readers i.e. if children with the lowest reading ability were the least able to avail themselves of contextual information, their reading accuracy should be the least affected by the removal of such information in the 'list' condition.

Table 16.1 presents the mean error scores for each of the three ability groups and for each of the three types of text.

Table 16.1 Mean error scores on the 'out-of-context' tasks for each of the three ability groups on each type of textlist (Maximum possible error score equals 20).

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
SELF-text	$\bar{x}$ (s.d.)	0.36 (0.58)	1.81 (1.58)	4.35 (3.19)	2.11 (2.67)
PEER-text	$\bar{x}$ (s.d.)	0.79 (0.83)	2.93 (2.04)	5.52 (3.36)	3.0 (3.04)
CLASS-text	$\bar{x}$ (s.d.)	2.31 (1.80)	3.18 (2.03)	5.52 (3.32)	3.64 (2.84)
ALL TEXTS	$\bar{x}$ (s.d.)	1.15 (1.45)	2.75 (1.99)	4.87 (3.20)	2.85 (2.83)

The first question to be considered was whether or not the data showed any support for the notion that reading accuracy depended upon the ability to use contextual as well as graphic information. Since, as Table 16.1 shows, errors in the 'list' condition occurred in respect of each of the three texts there was a very clear indication that, during the initial reading of the passages, some 'context-dependency' had occurred. Putting this finding another way, we could say that it shows clearly that these 'poor' readers were able to make use of contextual as well as graphic cues during the reading of all three types of text. For example, whilst BRIAN could read the words 'enough', 'properly', 'social' and 'heavy' perfectly correctly within the context of the reading passage, he produced the SUBSTITUTION errors 'enemy', 'popular', 'singular' and 'ever' in response to these words in the 'list' condition. This despite the fact that 'time' (i.e. time to improve his reading) and the chosen methodology (i.e. the words had already been shown to be within his capability) was very much on his side in the 'list' condition. The data can thus be taken to show that - in general - the low ability 11 year old readers



not only made use of contextual information, but were, to some extent, dependent upon it in order to decode certain words.

The second question under investigation was whether or not this apparent dependency on contextual information might be affected by a reader's background knowledge of the text in question. In other words, were readers more, or less 'context-dependent' on the SELF-texts as opposed to the PEER and CLASS-texts ? As Table 16.1 shows, the overall finding was that although the differences in error scores were very small, children made the fewest errors on the SELF-text words and the most errors on the words from the CLASS-text. This would suggest that, in general, they were relying more heavily on contextual information on a text which, although deemed 'appropriate' (by the class-teacher) in terms of their age and ability, could be assumed to be less 'accessible' in terms of background knowledge and vocabulary content than the SELF and PEER texts. In other words, the lists of words from the CLASS-text - although previously read correctly within the context of the passage - produced the most errors and, therefore, the most reliance on context appeared to have occurred during the reading of this text. This finding was compatible with the notion that the vocabulary of the CLASS-text might be less familiar, and as such less 'accessible', than the vocabulary of the SELF and PEER-texts which was drawn from the children's own spoken (if not written) vocabulary, i.e. in attempting to read less accessible words one might assume that the need for contextual as well as graphic cues would be increased.

A 2-way analysis of variance test (TEXT x ABILITY) showed the TEXT effect to be statistically significant ( $F = 11.139$ ; d.f.2,98;  $p < 0.001$ ) and subsequent multiple comparison Scheffé tests revealed:

- \* Subjects made significantly fewer errors on the SELF texts lists than on the PEER texts lists  
( $F = 5.64$ ;  $df. 2,92$ ;  $p < 0.01$ )
- \* Fewer errors were made on the PEER texts lists than on the CLASS text lists  
( $F = 2.85$ ;  $df. 2,92$ ;  $p < 0.10$ )
- \* Fewer errors were made on the SELF text lists than on the CLASS text lists  
( $F = 16.71$ ;  $d.f. 2,92$ ;  $p < 0.01$ )

These findings suggested that, although the differences in the mean error scores for the three types of text list were small, a trend could be observed in the data with the subjects making the fewest errors on the SELF-text lists and the most errors on the CLASS text lists. This finding demonstrated clearly that whilst contextual information had been an important source of information during the reading of each text, it became more crucial as readers' oral familiarity with the vocabulary in question diminished. It might be argued here that the 'list words' from the SELF-texts were simply 'easier' than those taken from the other two types of text and thus produced fewer errors. However, the criteria for word-difficulty (detailed in Chapter 4 above) were carefully observed in respect of each list for each child, and the fact that all the list words were already 'known' in context guarded against the problem of some words simply being too difficult for a particular child. Therefore, the finding that the different texts produced a differential reliance on contextual information would seem to be valid.

The third question under investigation through the presentation of the 'out-of-context' tasks related to whether or not reading ability appeared to play a part in 'context-dependency' on the different types of text. As Table 16.1 shows the Poorer readers made considerably more errors (over all texts) than did the children in the Fair and Better groups. This would suggest that the lower the reading ability, the more crucial the availability of contextual information even in a situation where a word is 'familiar' in the sense that it has already been read correctly on a previous occasion. The analysis of variance test confirmed that the overall difference in error scores according to reading ability was statistically significant ( $F = 19.049$ ;  $df. 2,46$ ;  $p < 0.001$ ). However, subsequent Scheffé tests revealed that this difference was actually a function of the comparison between the mean error scores of the Better and Poorer group readers ( $F = 5.835$ ;  $d.f. 2,46$ ;  $p < 0.01$ ). In other words, although the mean error scores suggested a trend with the Better readers making the fewest 'list' errors (1.15), the Poorer readers making the most errors (4.87) and the mean error score of the children in the Fair group falling in between (2.75), these findings were not, in statistical terms at least, quite so clear-cut. (See Appendix B for ANOVA table). Nevertheless, the fact remains that a clear statistically significant overall ability effect was apparent and the findings were the reverse of what would have been expected if the generalisation (made by previous researchers such as Burke, 1976) that the poorer the readers the poorer their ability to use contextual information, was to be supported.

Looking finally at the related question of a possible interaction between text type, reading ability and the tendency to be dependent upon contextual information (as indicated by the mean error

scores for the 'list' condition) the analysis of variance test showed no statistically significant findings of this kind. However, this non-significant interaction is interesting in itself as it can be at least partially explained by mean error scores of the Poorer readers. As Table 16.1 indicates their mean error scores on each type of text-list were remarkably similar whilst the corresponding scores of the Better and Fair readers reflected the statistically significant overall text-effect pattern mentioned above (i.e. readers making most errors on the CLASS-text and fewest on the SELF-text lists). It would seem from this finding that the children with the lowest reading ability were likely to have relied almost as much on the contextual information provided by their SELF-texts as by the PEER and CLASS-texts - at least as far as the 'difficult words' in question were concerned. This could probably be explained by their inferior graphic skills (related to the other ability groups) but it again adds support to the finding that far from being less able to make use of contextual cues than their higher reading-age contemporaries, they were dependent on such information to a greater degree. Put another way, this finding could be interpreted as showing that the effects of 'background knowledge of vocabulary' or text 'accessibility' - apparent in the mean error patterns of the Fair and Better group readers - are negligible when graphic skills are very poor. The poorest readers in the sample showed the greatest inability to read the 'list' words whether they were taken from their own vocabulary, from the vocabulary of their peers, or from the vocabulary of a typical class-reader. This despite the fact that all the words could be recognised within the context of the respective reading passages.

### The findings in the context of related research

Three main findings emerged from the presentation of the 'out-of-context' tasks. First of all there was the clear indication from the mean error scores of the listed words that children from each of the three ability groups had made use of contextual cues during the passage readings to the extent that some 'difficult' words could not be recognised at a later stage when presented in isolation.. Secondly, there was the general finding that readers appeared to have been most 'context-dependent' in terms of the vocabulary with which they might be assumed to have the least familiarity - the CLASS-text words. Thirdly, with regard to reading ability and context- dependence it was shown that, whilst the Better and Fair readers made the fewest errors on the SELF-text lists and the most on the lists taken from the CLASS-text, the Poorer readers' mean error scores were more or less consistent across all three texts. It would seem from this that very poor graphic skills - the Poorer readers had an average of around -40 months discrepancy between their real ages and reading ages throughout the study - result in a heavier reliance on contextual cues. In the present study this context-dependence was not lessened when children were presented with texts based on their own vocabulary and concerned with their own friends and interests.

Whilst no previous study has made use of the same procedure as that employed by the present author (i.e. the presentation of self-generated text words and other words previously read correctly) some similarities with the findings of the existing literature can be identified. There is also at least one major difference in that the present study of remedial readers' use of contextual information

gives no support to the view that they make little use of contextual information as argued by Au, (1977); D'Angelo (1981); and Murray & Maliphant (1982). Although no 'average' readers participated in the present study and this means that comparisons with the work of other authors must be cautious, the finding that the poorest readers had relied most heavily on contextual cues was in direct opposition to the view that less able readers focus on graphic information and do not 'read for meaning'.

Thus the findings of the present author are more in accord with those of researchers such as Biemiller (1979) and Juel (1980). Each of these authors, studying children of junior school age but with approximately similar reading ages to the children who participated in the present study, found that the less proficient readers relied heavily on contextual cues. Finally in this connection the work of Kibby (1979) is of particular interest since it was the only study traced by the present author which involved an oral reading error analysis of older (10 - 13 year old) remedial readers - albeit in the American school system. Kibby's study was reviewed in Chapter 2 but in summary his findings, like those of the present study, showed that remedial readers can make good use of contextual information providing a passage is within their decoding capabilities.

#### The contribution of the findings of the 'out-of-context' task to the general picture of the children's oral errors

Finally, in the present chapter, it is appropriate to clarify the particular contribution of the findings from the 'out-of-context' tasks to the general picture of the children's use of contextual and graphic information which has already emerged from the analysis of SUBSTITUTION errors reported in previous chapters. In this

connection it is worth reiterating that this previous analysis of errors from the three types of text left little doubt that the readers were able to make use of contextual cues. For example, on each type of text approximately 90% of the children's SUBSTITUTION errors were shown to have some semantic/syntactic acceptability irrespective of reading ability grouping. However, this finding could not be taken as an indicator that the readers were relying more heavily on contextual than on graphic information. As the later analysis showed approximately 80% of the errors on each type of text could be termed COMBINED-SOURCE errors. For example, in the apparently COMBINED-SOURCE error made by ANDREW on his PEER-text (the sentence concerned a pet spaniel):

‘She used to <sup>drop</sup>~~drag~~ a ball down the steps’

it was not possible to tell whether both the graphic and contextual sources of information were actually used. It is possible that ANDREW concentrated on only one of these sources. In other words what appears to be an ability to make good use of contextual as well as graphic information may be based on an assumption which is not particularly well supported by the evidence available. The ‘out-of-context’ task could not settle this issue entirely but it could, by shifting the focus from the errors made on the texts to words which had been read **correctly**, provide some measure of the extent to which a child's correct reading of a word depended on contextual cues. A correct reading of a ‘difficult’ word within the text could of course be the result of a synthesis of cues - however, if that word could not be decoded when presented in isolation on a subsequent occasion, this would provide strong support for the view that the use of contextual rather than graphic cues had been the

crucial factor for reading accuracy.

Thus from the 'out-of-context' tasks a picture of context-dependency - at least in terms of certain 'difficult' words - emerged, and, with the exception of those children in the lowest of the three reading ability groups, this varied according to the type of text read. There was then, no question that the readers were able to draw on contextual cues when graphic skills were less than adequate. This clarified picture of their reading strategies in this respect and was the major contribution of the 'out-of-context' tasks.

A concluding point of discussion in this chapter relates to the use by the author of the somewhat pejorative sounding term 'context-dependency'. A question which might be asked is whether context-dependency 'matters'. In other words is it a cause for concern that some of the remedial readers who participated in the study were unable to decode words presented in list form even though they had been previously read correctly in context. A related question concerns the finding that whilst the Better and Fair readers varied in context-dependency according to the type of text read, the Poorer readers produced a more or less equivalent number of errors on the list words from each type of text.

On the one hand it is possible to adopt a common-sense view of these questions and suggest that since all the list words had been read correctly, and with no apparent problems, during the 'real' reading task - the passage readings - it matters very little that some of the words could not be decoded when they were presented in isolation. Reading for 'real' purposes - reading that is not for the



benefit of psychologists engaged in writing academic papers - is not, after all, concerned with reading 'lists', but with reading connected prose which has meaning in terms of themes and messages. A theorist such as Smith would no doubt adopt this view since his assertion that readers do not have to be able to decode every word of a text in order to understand its meaning, is well known.

On the other hand there is the view that an ability to process words correctly on one occasion but not on another points to a fundamental weakness in terms of a reader's flexibility. In the case of the Poorer readers in the present study this lack of flexibility was most apparent in terms of the number of errors made in the 'list' condition. One is reminded here of Biemiller's finding that beginning readers who stayed too long in what he termed the 'context-using' phase made the least progress during their first school year (Biemiller 1970). However, his somewhat radical conclusion that this problem could be remedied by providing them with instruction through isolated words until their graphic skills improved, is not one which would appeal, one suspects, to many teachers of 11 year old remedial readers, not to mention their pupils.

What does seem apparent from the results of the 'out-of-context' tasks reported above is that whilst children with very poor reading ability may be less flexible in terms of the synthesis of graphic and contextual information, they do not need to be taught how to 'read for meaning'. When graphic skills were not adequate, contextual cues could be drawn upon to provide the solution, at least for some 'difficult' words in some contexts. Nevertheless, it must be remembered that these children were remedial readers - the suggestion

from the findings of the 'out-of-context' task seems to be that whatever the primary cause of their reading failure - if indeed it is suitable to speak of a 'primary cause' in a business as complex as reading - it had little to do with their ability to attempt to read for meaning.

The remainder of this thesis, in an effort to add more information to the picture of the reading strengths and weaknesses which has so far emerged, turns to a consideration of the children's metalinguistic knowledge and opinions and attitudes towards reading. The question eventually posed is whether or not a 'mismatch' existed between what the children knew (or were able to say) about reading and reading problems, and what they were able to do in terms of their oral reading performances. Might it be, for instance, that one of the causes of their continuing poor reading ability was concerned with a lack of metacognitive knowledge about their own strengths and weaknesses? The chapters in Part Four are concerned with the investigation and description of the children's verbalised knowledge and attitudes whilst the final part of the thesis (Part Five) adopts a case-study approach in an attempt to investigate the notion of 'match' or 'mismatch' referred to above.

PART FOUR  
METALINGUISTIC KNOWLEDGE

## CHAPTER 17

### CHILDREN'S METALINGUISTIC KNOWLEDGE ABOUT READING: THE CURRENT RESEARCH PICTURE

The analysis of oral reading errors on the SELF, PEER and CLASS-texts and the chapter which focussed on the children's use of the linguistic context indicated certain quantitative and qualitative differences between the errors of the Better, Fair and Poorer readers.

The following chapters focus upon an investigation of the children's verbalised metalinguistic knowledge about aspects of reading and describe their perceptions of themselves as 'good' or 'poor' readers; their notions of what constitutes 'difficult' and 'easy' texts; their self-reported problem-solving strategies and their perceptions of the purposes of reading. Chapter 24 will debate the relationships that may exist between oral reading errors and the children's knowledge and views about reading by focussing on the error-profiles and verbalised metalinguistic knowledge of typical Better, Fair and Poorer readers in the sample.

Some specific references to the relevant research literature of metalinguistic knowledge were made in Chapter 4 above where the details of the author's structured interview schedule and its administration were given. However, it seemed appropriate to leave the more detailed consideration of existing research concerning children's metalinguistic knowledge until the present chapter where it provides a meaningful context for the results of the structured interviews which will be reported below.

### Children's metalinguistic knowledge about reading - the current research picture

Over the last twenty years reading researchers have become increasingly interested in investigating children's metalinguistic knowledge about reading. Jessie Reid's seminal paper on children's thinking about reading, published in 1966, was an important forerunner of several later studies which attempted to gain a broad view of children's ability to verbalise their knowledge about reading and reading-related concepts. Researchers have typically concentrated on beginning readers or readers still in the Primary school - this focus reflecting the concern that a minimum level of linguistic awareness is necessary for successful reading and that confusion over the form and function of written language is a fundamental characteristic of reading failure (Mattingley 1972; Downing 1979).

Reid (1966) showed the gradual development of knowledge about reading in a group of 5 year old beginning readers studied over a one-year period. She used structured interviews containing open-ended questions, administered after 2, 4 and 9 months of reading instruction, and she was able to show that, although children varied considerably in the amount and kind of knowledge they had about reading, most of them had very little precise idea of what the activity of reading actually involved. For example, one girl who could not read maintained that she was "past reading" and others, by the end of the school year, were still unaware whether one read the pictures or the "other marks" on the paper. Reid concluded that if children could be helped 'consciously and carefully' to develop an awareness of the 'technical vocabulary' of reading, i.e. such terms as 'word' and 'letter', as well as a greater awareness of what the

reading task involved, their reading progress, as well as their general logical thinking about language, would be improved.

Reid used a small sample involving only 12 children but the study was unique in its longitudinal approach. The findings relating to the general confusion of her beginning readers about what reading involved, and their specific confusion over terms such as 'word' and 'letter' have now been well-supported by more recent researchers using larger sample sizes and studying older children.

For example, Johns and Ellis (1969) studied 1655 readers between the ages of 7 and 14 years and reported that 69% of the children gave essentially meaningless answers to the question 'What is reading?'. Johns (1979) later reviewed several studies focussing on such questions as 'What is reading?', 'What do you do when you read?' and 'If someone didn't know how to read what would you tell him/her to do?'. He suggested that many children had only a limited awareness of the nature of the reading task. (But see Chapter 4 where the methodological problems of the Johns and Ellis (1969) study are discussed in the context of describing the methodology of the study of remedial readers by the present author.)

Following Reid's finding that young children had little awareness of the 'technical vocabulary' of reading some researchers have concentrated on readers' knowledge of the concept of the term 'word' and their understanding of the relationship between spoken and written language (Downing, 1969; Downing and Oliver, 1973-4; Ehri, 1979; Holden and McGintey, 1972; Lundberg and Torneus, 1978; Papandropoulou and Sinclair, 1974). These studies involved children between the ages of 4 to 8 years and a comprehensive review of the

main findings is presented by Moore (1982). Generally speaking the studies have shown that the assumption that children are conscious of separate words in written language is largely unfounded and, this being the case, that the term 'word' is poorly understood. For example, Holden and McGintie (1972) found 5 and 6 year old kindergarten pupils segmented such sentences as 'The book is in the desk' into 3 'words': 'The book/is in/the desk'. The researchers felt that this tendency to regard phrase boundaries as word boundaries resulted from the rhythmic patterns imposed on the sentences by children during their oral reading of the material. However, Ehri (1975), investigating this suggestion, found that confusion over words as discrete units was still apparent when children were presented with sentences stripped of rhythmic or segmentation. Additionally, as regards the relationship between written and spoken language, Papandropoulou and Sinclair (1974) describe the tendency of children between the ages of 4 and 7 to confuse the orthographic features of a word with the physical appearance of the object that is symbolised e.g. when asked to say a 'long word' children might refer to a 'chair' (as having long legs) or a 'train' (as being a long object). However, such studies have typically shown an increase in the understanding of the relationship between written and spoken language as children grow older. In particular Lundberg and Torneus (1978) showed the word/object confusion was much less marked in 7 and 8 year olds than in the 4 year olds.

More comprehensive studies of children's metalinguistic knowledge about reading have also demonstrated that older children are able to display more awareness of concepts about written language (Myers and Paris, 1978; Moore and Kirkby, 1981; Moore, 1983). These

researchers employed the 18-item interview schedule developed by Myers and Paris (1978) to assess children's metalinguistic knowledge in three general categories: 'person variables', 'task variables' and 'strategy variables'. This interview schedule had the advantage that the responses could be scored on an interval scale (thus making cross-comparisons and statistical inference possible) but the disadvantage that it prompted a high percentage of 'Don't know' responses. In fact both Myers and Paris (1978) and Moore and Kirkby (1981) report a 'Don't know' response from 47% of second grade (8 year old) children who were asked a question about the purposes of a reading task. Of course, the problem of 'Don't know' responses is that it is difficult to know whether they reflect an actual lack of knowledge, an inability to express knowledge, a failure to comprehend the question, or an attempt to speed through the interview and beat a hasty retreat!

Moore (1983) attempted to address this problem of 'Don't know' responses by examining the influence of two different interviewing techniques on children's verbalised knowledge about selected aspects of reading. Studying a sample of 76 Infant and Junior school children he used two interview schedules: the Myers and Paris (1978) direct-question interview referred to above, and what he refers to as the 'Exchange' schedule. This latter was generated from questions in the Myers and Paris, and Moore and Kirkby (1981) studies which had shown a tendency to prompt 'Don't know' responses. The schedule took the form of a series of supposed dialogues ('exchanges') between two children talking about specific problems they had in reading e.g. the question 'What do you do if you don't understand a whole sentence that you read?' was extended to form a dialogue between 'Child 1' and 'Child 2'. The interviewer read the dialogue (in which Child 2 came



to the conclusion 'It's easy, I just leave it (the sentence) out') and then asked the question 'What do you think?' Would it be best to leave out a sentence if you didn't understand it?' Moore hypothesised that 'Exchange' questions would elicit more meaningful responses from children than the standard Myers and Paris questions. However, this hypothesis was not supported by the results and Moore concluded that the direct approach of asking specific questions was a more useful and less time-consuming method. (A problem here though is that Moore does not discuss the actual number of 'Don't know' responses prompted by each method. Instead he calculates the group mean scores for responses to each question and compares them using analysis of variance. Whilst it is logical enough to suppose that Exchange scores (for a particular question) would be higher than Interview scores if the Exchange format had produced more meaningful responses, (i.e. Don't know = score of 0), this choice of analysis obscures the actual comparative frequency of 'Don't know' responses for the 'Exchange' and 'Interview' techniques. It is, therefore, unhelpful on the fundamental 'Don't know' issue and it is worth mentioning at this point that it was largely because of this unresolved issue that the Myers and Paris (1978) interview schedule was not used by the present author in investigating the metalinguistic knowledge of the 52 remedial readers who took part in her study.)

However, leaving this issue aside, there is general support for the finding that children's verbalised metalinguistic knowledge about reading increases with age. Specifically the Myers and Paris (1978) study suggested that, although 8 year old children were aware of the influence of dimensions such as passage length, passage interest and passage familiarity, they expressed less knowledge than 12 year olds about the purpose of reading, strategies for solving a lack of

comprehension, and the semantic structure of paragraphs. The researchers suggested that age-related differences in metalinguistic knowledge may be correlated with the acquisition of efficient memory and problem-solving skills as well as with reading skills. Moore (1983) studying younger children between the ages of 6 and 10 years, suggested that a considerable improvement in metalinguistic knowledge occurred between the ages of 6 and 8 years (Infant 3 and Junior 2), and concluded that whilst this could be due to maturation in reading, a case could also be made for the importance of the direct influence of instruction which occurs only after the early years of schooling: "In the beginning and early years of reading there would seem to be little attention paid to teaching some of the metacognitive aspects under investigation in the present study". (p.98).

Related to the age x metalinguistic knowledge issue is the question of reading ability and how this may be involved in any interaction. This problem has received only limited attention from researchers: a literature search revealed only three studies which had made an attempt to isolate the ability and age variables (Ryan, MacNamara and Kenny, 1977; Moore and Kirby 1981, and Moore 1983).

Ryan, MacNamara and Kenny (1977) studied first and second grade readers (6 - 8 year olds) and third and fourth grade readers (9 and 10 year olds) with a view to examining the notion that metalinguistic awareness is a prerequisite for achieving reading proficiency. Three main findings emerged from the study: the reading level of each age group was significantly correlated with the ability to classify auditory sounds as words, non-words or two words; the reading level of the second-graders was significantly correlated with the ability to identify words added to a sentence; the reading level of the first

and second-graders was significantly correlated with the ability to indicate awareness of a second meaning of a word. Thus the findings were all correlational in nature but could be interpreted as supporting the view that reading ability and metalinguistic knowledge go hand in hand. (The nature of this relationship is, of course, not demonstrated).

Moore and Kirkby (1981) and Moore (1983) have also made some attempt to address the issue of a reading ability x metalinguistic knowledge interaction. Moore and Kirkby studied high and low ability readers in the second and sixth grade (8 and 12 year olds) and revealed two within-grade differences in the children's responses to the Myers-Paris (1978) metalinguistic questionnaire (referred to above). The first difference, between high and low ability second-graders, was concerned with the supposed memorability of reading material: more high ability than low ability second-graders felt a text chosen by a teacher would be more memorable than a text chosen by themselves. The second difference, between high and low ability sixth-graders, was concerned with searching for information during skimming: more high ability than low ability children referred to this reading strategy. The significance of the first finding as it relates to high reading ability, increased metalinguistic awareness, or both, is rather difficult to fathom. (Why did high ability readers feel the teacher's choice would be more memorable?). In addition to this the study has the disadvantage that the statistical analysis (Chi-square) required the children's responses to be categorised in an either/or fashion, i.e. child did or did not mention X. As Moore himself points out, this meant that potentially interesting qualitative differences between responses were obscured e.g. one child might simply mention a particular reading strategy

whilst another might give a full explanation of its purpose.

A partial solution to this problem was attempted by Moore in his subsequent study (Moore 1983) in where the responses of his sample of high and low ability 6, 8 and 10 year olds were scored according to an interval scale. This study revealed that the high ability group, overall, scored significantly higher than the low ability group on more than half of the 18 (Myers-Paris) interview items. For example high ability children knew more about: the nature of good readers; the relationship between reading and maths performance; the possible influence of social/economic status on reading; the relationship between familiarity of content and comprehension; skimming and the need to change reading rate to suit the task demands. This study thus revealed some interesting differences between high and low ability readers (although the present author has reservations about the use of an interval scale to score responses since no normative data on metalinguistic awareness is presently available).

Summing up the information available from these three studies, it can be seen that the findings offer some support to the notion that metalinguistic knowledge and reading ability are related. However, as the researchers in question freely admit, the nature of the relationship remains an open question which might be interpreted in at least three different ways: an increase in metalinguistic awareness may cause an increase in reading ability; the obverse may be true; or metalinguistic awareness and reading ability may develop side by side but independently. Intervention type explorations, where specific metalinguistic instruction is given, may be the only effective way to ascertain whether a causal relationship exists between reading ability and metalinguistic awareness. As yet these

have not been attempted.

The dozen or so studies referred to above give some idea of nature and extent of existing research into children's metalinguistic awareness. As this brief review suggests, various interview strategies - some 'open-ended', some much more highly structured, have been employed - and the focus of researchers has varied from the narrow 'word' perspective to a much more global approach. There have also been case-studies of young children's encounters with print (Bissex 1980; Payton 1984; van Lierop 1985), and Sutton (1985) has described some of the factors which are of relevance to learning to read in pre-school children. However, in the main, research attention has been concentrated on Primary school readers and the studies have usually been American or Australian. The result is that (despite Reid's impressive lead more than twenty years ago) at the time the present study was conducted we had little information which related to the metalinguistic awareness of children in the British school system, even less that related to children beyond the beginning stages of learning to read, and none at all relating to the presence or absence of metalinguistic awareness in remedial readers of Secondary school age. More recently, however, British teachers such as Tony Martin and Jennifer Walton have begun to publish information, gained through their assessment of primary age children with learning difficulties, which relates to children's thoughts about reading, learning and themselves (Martin 1986; Walton 1987).

The metalinguistic component of the present author's study was an attempt to provide some information which could be related to the dimensions of reading behaviour studied through the analysis of oral reading errors.

### The presentation of the results: an overview

The results of the investigation are mainly presented in descriptive terms since the aim of the structured interviews was not to measure the children's metalinguistic knowledge so much as to describe and comment on any qualitative differences apparent between readers. However, where statistical analysis of the frequency of responses was possible, and where this seemed appropriate, Chi-square calculations were conducted on the raw data.

The structured interviews were designed to investigate five areas of the children's knowledge about reading and their attitudes towards it. These five areas, and the corresponding sections of the interview schedule were described in Chapter 4 where it was explained that the metalinguistic knowledge/attitudes 'session' took the form of a structured discussion about reading rather than a formal question and answer routine.

The purpose of the following chapters is to report the findings from these sessions and to provide the reader with a detailed account of the children's responses in order to build up a picture of their knowledge, perceptions and opinions about reading and about certain functions and features of written language. As explained in Chapter 4 the sequence of the author's questions could vary from child to child depending upon the responses they gave during the initial stages of the interview. Nevertheless, for the sake of clarity in the following chapters, the findings from the five areas under investigation are reported in the following sequence, a sequence

which, by and large, reflects the order in which the topics were discussed.

- 1) The children's perceptions of their own reading attainment and their notions of what characterised 'good' and 'poor' readers.
- 2) The nature of reading material: 'difficult' and 'easy' texts.
- 3) Reading strategies. Self-reported solutions to the problem of reading 'unknown words'.
- 4) Understanding some of the basic vocabulary of reading: terms such as WORD, LETTER, FULLSTOP, COMMA etc.
- 5) The children's opinions about the purposes of reading.

## CHAPTER 18

**RESULTS: THE CHILDREN'S PERCEPTIONS OF THEIR OWN READING  
ATTAINMENT AND THEIR NOTIONS OF WHAT CHARACTERISES  
'GOOD' and 'POOR' READERS**

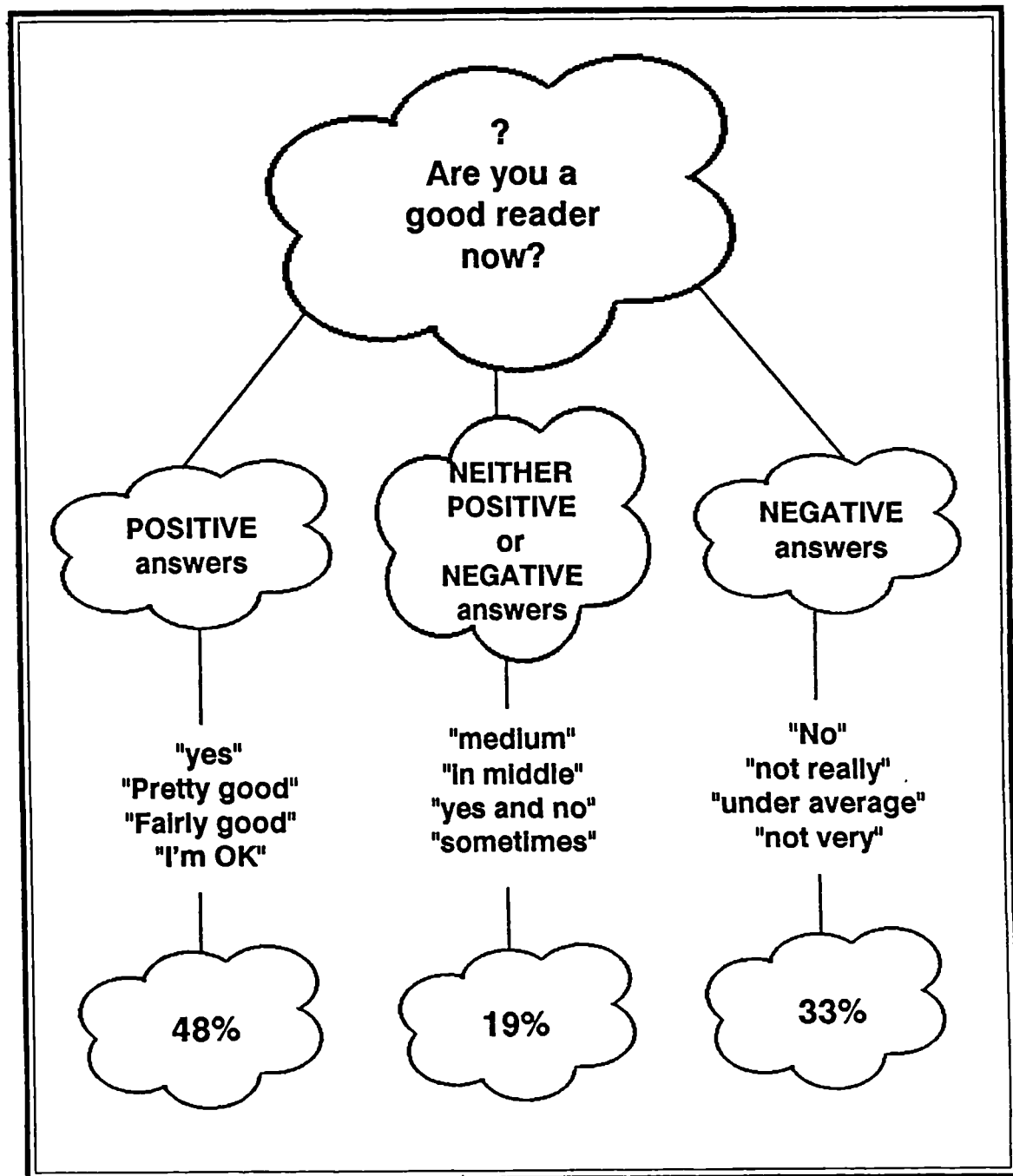
This section of the structured interview involved questions designed to encourage the children to give the author some fairly detailed information about their perceptions of their own reading ability and the notions upon which these views were based. The basic opening question "Are you a good reader now?" was sometimes followed up by a variety of probes ("What do you think? How do you think you're doing?") depending upon the child's initial response (see Chapter 4 for more details). The second basic question relating to the characteristics of 'good' and 'poor' readers could also take a variety of forms ("What makes you think you're a good (poor) reader? How can you tell?") again depending on the child's responses and willingness to offer information. However, in order to aid clarity, the findings are reported under the headings corresponding to the two basic questions: "Are you a good reader now?" and "How can you tell if you're a good/poor reader?"

Are you a good reader now?

The children's responses to this question are presented diagrammatically in Fig.18.1 below. Responses were divided into three broad categories: 'POSITIVE answers', 'NEGATIVE answers' and answers which were 'NEITHER positive or negative'. As the diagrammatic representation shows just less than half of the children (48%) gave



Fig. 18.1 The children's perceptions of their own reading ability



positive answers to the question seeing themselves as "pretty good", "fairly good", "O.K." etc. By contrast a third (33%) of the sample gave negative responses ("not very good", "under average" etc.) and 19% gave answers which suggested they held neither a wholly positive nor wholly negative view of their reading ability.

It is worth noting here that the answers which fell into the middle category ('neither positive/negative') were, by and large, just as informative as the wholly 'positive' or wholly 'negative' responses since a child who answered "yes and no" or "sometimes" was giving a response which was of a different order of complexity from a non-committal "don't know". In any event all the responses could be followed up given that the interview progressed along the subsequent "good" vs. "poor" readers line of enquiry.

Summing up the information contained in Fig.18.1, it is interesting to note that despite the fact that the 52 children concerned had an average discrepancy of -30 months (s.d.14.2) between their chronological ages and their reading ages only 33% felt that they were not "good readers". Their frames of reference can best be explored when considering their views of what characterised "good" and "poor" readers in a later section of this chapter. However, it is first necessary to focus on the within ability group responses to the question "Are you a good reader now?" Table 18.1 shows a breakdown of the POSITIVE, neither POSITIVE/NEGATIVE and NEGATIVE responses of the children in the Better, Fair and Poorer ability groups.

Table 18.1 'Are you a good reader now?': perceptions of reading ability by the children in each ability group

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
POSITIVE answers	%	58.0	56.0	29.0	48.0
	n	11	9	5	25
neither POSITIVE/NEGATIVE	%	16.0	19.0	24.0	19.0
	n	3	3	4	10
NEGATIVE answers	%	26.0	25.0	47.0	33.0
	n	5	4	8	17
TOTALS	%	100.0	100.0	100.0	100.0
	n	19	16	17	52

A series of Chi-square calculations (raw data) indicated that no statistically significant variations existed in the proportions of Better, Fair and Poorer readers who had given POSITIVE, NEGATIVE or neither POSITIVE/NEGATIVE answers concerned with their own perception of their reading ability - this despite the large differences that existed between the actual measured reading ability of the three groups. For example, more or less equal proportions of the Better and Fair group children - more than 50% in each group - saw themselves as "good" readers although at the time of the reading of the CLASS-text the mean real age/reading age discrepancy of the Better group children was -15 (s.d. 5.3) months and that of the Fair group -31 months (s.d. 5.8). A smaller proportion of the Poorer group readers viewed their reading ability in a POSITIVE way although it is worth noting that 29% of the children in this group also saw themselves as "good" readers - this despite the mean real age/reading age discrepancy figure of -45 months (s.d. 8.9) recorded for the group a few weeks earlier. (The non-significant Chi-square values are available in Appendix B).

Summing up the picture of the children's perceptions of their own reading ability as they emerged at this point during the structured interviews, it seemed, by and large, that these had little to do with their actual measured reading ability. Putting this point another way (and simplifying greatly) despite a mean real age/reading age discrepancy of -30 months (s.d. 14.2) for the whole group of 52 readers, only 33% of the children described their reading ability in negative terms. Again simplifying greatly, the magnitude of this 'mismatch' seemed greatest for the Fair group children, whilst the perceptions of the Better and Poorer group children more closely approximated their actual reading ability, i.e. 56% of the Fair group children felt they were "good" readers despite the group mean of -31 months real age/reading age discrepancy. However, this line of enquiry could best be investigated by comparing the responses of individuals in each group with their actual reading ages (Schonell) and their real age/reading age discrepancy scores. This comparison was made in an attempt to investigate further the frames of reference used by the children in deciding whether they were, or were not "good readers". To take the Fair group children as an example: How did the reading ages and discrepancy scores of the children giving POSITIVE responses compare with those of a) the Better and Poorer group children who gave POSITIVE responses? and b) the children in their own group who gave NEGATIVE or NEITHER POSITIVE/NEGATIVE responses?

Looking first at actual reading ages Table 18.2 suggests some interesting findings concerning the children's perceptions of their own reading ability.

Table 18.2 The mean reading ages (Schonell) of children giving POSITIVE, NEITHER POSITIVE nor NEGATIVE and NEGATIVE responses to the question "Are you a good reader now?"

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
POSITIVE answers	10:5 (11)*	9:5 (9)	8:8 (5)	9:6 (25)
NEITHER POSITIVE/NEGATIVE answers	10:5 (3)	9:4 (3)	8:2 (4)	9:4 (10)
NEGATIVE answers	10:4 (5)	9:3 (4)	8:4 (8)	9:4 (17)

\* The figure in brackets denotes the actual number of individuals in each group who gave this category of response.

The main point emerging from Table 18.2 can be summarised as follows:

- \* Despite existing differences in mean reading age between ability groups there was virtually no difference in the reading ages of those individuals within groups who gave POSITIVE, NEGATIVE or NEITHER POSITIVE/NEGATIVE responses to the question "Are you a good reader now?"

This suggests that whatever frame of reference was being used by the children in answering the question "Are you a good reader now?" it had little to do with their actual reading ages.

Looking next at the discrepancy between the chronological ages and the reading ages of the children, according to their responses, a similar overall pattern of findings emerges. The data are provided in Table 18.3 below.

Table 18.3 The mean chronological age/reading age discrepancy scores of children giving POSITIVE, NEITHER POSITIVE nor NEGATIVE and NEGATIVE responses to the question "Are you a good reader now?"

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
POSITIVE answers	-15.0 (11)*	-29.7 (9)	-38.0 (5)	-27.5 (25)
NEITHER POSITIVE/NEGATIVE answers	-14.3 (3)	-28.3 (3)	-46.5 (4)	-29.7 (10)
NEGATIVE answers	-19.6 (5)	-31.7 (4)	-43.6 (8)	-31.6 (17)

\* The figure in brackets denotes the number of children who gave this category of response.

The discrepancy data, like the reading age data, showed that although the differences in discrepancy scores within ability groups were quite small (irrespective of whether readers saw themselves as "good" or "poor") large differences existed between groups, i.e. whatever frames of reference the children were using in deciding whether they were 'good' or 'poor' readers these seemed to have little to do with actual real age/reading age discrepancy scores. In the children's terms a "good" reader could have a reading age discrepancy score which ranged from -15.0 months (Better group) to -38 months (Poorer group). Similarly those children who held NEGATIVE perceptions of their own reading ability might have real age/reading age discrepancy scores anywhere between -19.6 months (Better group) and -43.6 months (Poorer group).

Responses to the question "How can you tell if you're a good/poor reader?" provided a further insight into the frames of reference used by the children in perceiving their own reading ability. These are discussed below.

### How can you tell if you're a good/poor reader?

When the children's responses to this question were examined it became evident that the distinction between 'good' and 'poor' readers was seen to be concerned with five major aspects of reading and how well these could be coped with. Depending upon their actual reading ability the children laid different emphasis on these aspects of reading and this gave the largest clue to the different frames of reference which were operating amongst readers. The five aspects are presented diagrammatically in Fig.18.2. The order of presentation is in accordance with the frequency with which the five aspects were mentioned.

The five aspects of reading suggested by the children and illustrated in Fig. 18.2 appeared to be a 'yardstick' by which self-professed "good" or "poor" readers measured their ability. However, children varied as to how many of these aspects they mentioned and a closer examination of the data showed interesting differences between the percentages of readers in each of the three ability groups in terms of which attributes of good and poor reading were mentioned most frequently. The data are further described below but in broad terms the Poorer readers were much more likely to mention the graphic features of words than either the Fair or Better group children, whilst Better readers placed more emphasis on 'performance skills' (or fluency) than either of the other two groups. It was also interesting to note that only 4 children made any mention of comprehension skills and that these were all members of the Better group. The data relating to each aspect of reading are more fully presented below but Fig. 18.3 gives an overview of the percentage of children mentioning each of the five aspects in question.

Fig. 18.2 Knowing whether or not you're a GOOD reader: the children's perceptions of the criteria involved

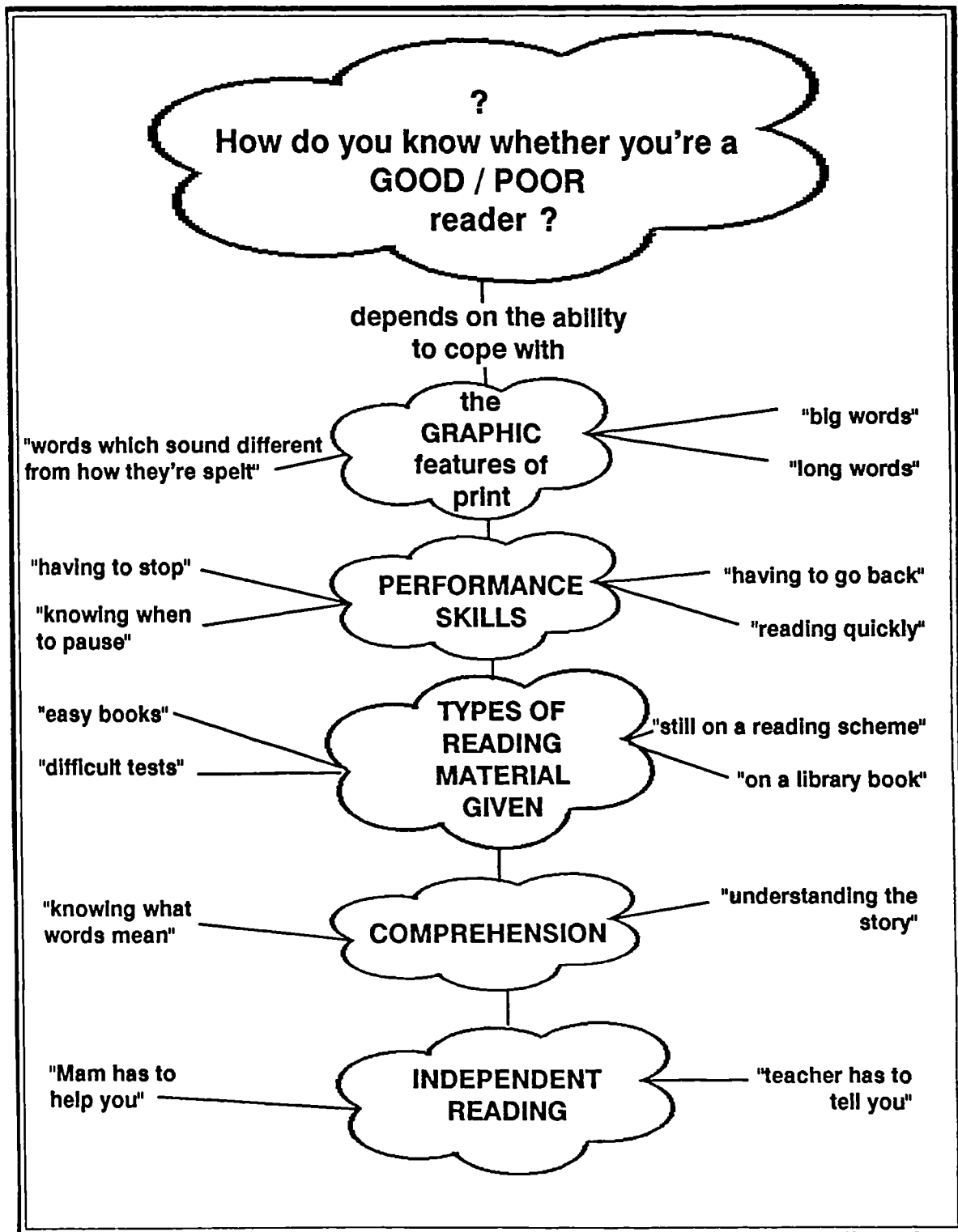




Fig. 18.3 The percentages of children mentioning each of the 5 aspects of reading concerned with their distinction between GOOD and POOR readers \*

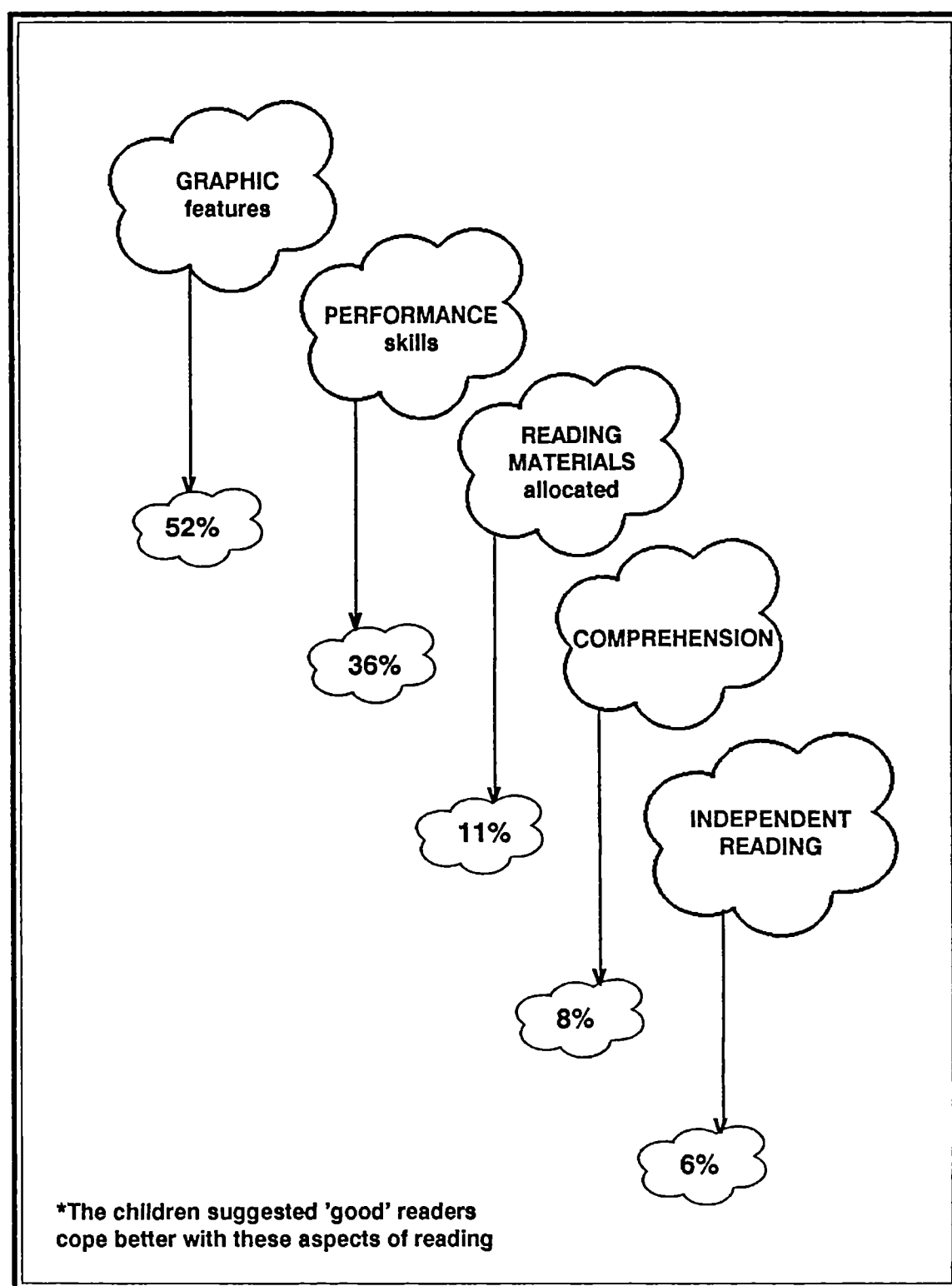


Table 18.4 below gives a further breakdown of the frequency with which these 5 aspects of reading were mentioned by the children in each of the three ability groups.

Table 18.4 The percentages of children in each of the three ability groups mentioning each of the five aspects of reading concerned with their distinction between 'good' and 'poor' readers

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
GRAPHIC features	%	39.0	44.0	76.0	52.0
	n	7	7	13	27
PERFORMANCE skills	%	58.0	37.0	12.0	36.0
	n	11	6	2	19
READING materials	%	0.0	12.0	23.0	11.0
	n	0	2	4	6
COMPREHENSION skills	%	21.0	0.0	0.0	8.0
	n	4	0	0	4
INDEPENDENT reading	%	5.0	6.0	6.0	6.0
	n	1	1	1	3

Owing to the small numbers of subjects concerned Chi-square calculations were only possible in the case of the responses relating to the 'GRAPHIC features of text' and 'PERFORMANCE skills'.

Statistically significant variations in the proportions of responses from the Better, Fair and Poorer readers were apparent in each case (see below). However, the percentage data concerning responses relating to the three remaining aspects of reading showed reasonably clear-cut findings and will be discussed in descriptive terms below.

## The GRAPHIC features of text

As Table 18.4 shows 52% (27) of the 52 readers mentioned the graphic features of text in connection with 'knowing' whether or not they were "good" readers. Of the 27 children concerned 13 (48%) were members of the Poorer readers' group whilst the remaining 14 (52%) children were equally divided between the Fair and Better readers' groups. A Chi-square calculation showed the variation in the responses to be statistically significant ( $\chi^2 = 6.26$ ; d.f. 2;  $p < 0.05$ ). Thus responses concerning the GRAPHIC features of print were most likely to be given by children in the Poorer readers' group. The children's comments were characterised by the notion of a poor reader's inability to cope with "long words". Examples of readers' comments (3 from each ability group) will illustrate this point.

### Better readers' comments about 'poor' readers included:

"you stumble over some of the words - the big ones"

"you struggle on the big words"

"not be able to spell the words - big words"

### Fair readers' comments included:

"I couldn't read them big words like 'examination'"

"long words - you stutter and stop"

"If you can spell long words out you're a good reader"

Poorer readers' comments included:

"big words - I can only read the beginning bit"

"long words - if you get them you're good"

"good readers can read long words"

As the examples show there was a general consensus amongst readers from each of the three ability groups that word length and word difficulty were one and the same thing. Only one of the children (a Fair reader) mentioned the notion of irregular sound/letter correspondence in connection with the GRAPHIC features of text. Her comment was that as a 'poor' reader she could not read "hard words which don't sound as they look".

## PERFORMANCE skills

36% (19) of the children mentioned some aspect of their performance of oral reading as being an indication of whether they were 'good' or 'poor' readers. A closer examination of the responses revealed that comments of this kind were much more likely to come from the Better readers than from children in either of the other two ability groups: 11 of the 19 children concerned were Better readers, 6 were Fair readers and 2 were members of the Poorer readers' group as illustrated by Table 18.4 above ( $\chi^2 = 8.24$ ; d.f. 2;  $p < 0.02$ ).

The comments relating to PERFORMANCE skills were of two types: those relating to 'fluency' of reading, and those relating to 'expression'. However, the 'fluency' comments were by far the most frequent: only 3 of the 19 children concerned gave responses which indicated that the ability to read with expression was a characteristic of 'good' reading. 2 of these children were Better readers whilst the remaining child belonged to the Fair readers' group.

Examples of the children's comments, first on 'fluency' and then on 'expression', are provided below.

Better readers' comments on 'fluency' included:

"I keep getting stuck or I go very slow"

"you won't be going too fast or too slow"

"stopping - I know the words but I can't pronounce them"

Fair readers' comments included:

"I keep spluttering"

"good readers read quickly"

"I used to read ever so slow when I was at little school"

Poorer readers' comments: (2 only)

"I rush - I don't stop and think"

"you read a sentence then you might have to go back"

Better readers' comments on 'expression': (2 only)

"poor readers are nervous - wouldn't make it sound properly - wouldn't pause"

"poor readers won't be stopping at fullstops"

Fair reader's comment: (1 only)

"poor readers carry on when there's a fullstop"

Thus whilst 19 children (36% of the total sample) felt that PERFORMANCE skills were important in determining the difference between "good" and "poor" readers the majority of the comments related to the fluency (and/or "speed") of reading. It was interesting to note however that 3 of the children acknowledged the importance of reading with expression, and that each of these comments raised the notion of poor readers' lack of attention to punctuation with two comments explicitly mentioning the "fullstop".

## READING MATERIALS allocated

The third most frequently mentioned aspect of reading which the children saw as contributing towards their perceptions of themselves as "good" or "poor" readers was concerned with the reading materials which they were asked to read in school. It is worth stressing here that it was the allocation of material by the teacher (not the choice of material by the children) which was perceived as an indicator of their reading ability. Only 6 children (11%) from the total sample of 52 readers mentioned this aspect of reading but it was interesting to note, as shown by Table 18.4 above that none of these were members of the Better group: 2 children were Fair readers and 4 were Poorer readers. As the examples below indicate 2 of the 6 responses contained an explicit reference to the "reading scheme", 2 mentioned the notion of "tests" and 2 children felt that being given "harder books" was a sign that they were good readers.

As only 6 responses regarding the allocation of reading materials occurred they are presented in full below.

### Fair readers' comments:

"you're off the reading scheme"

"you get reading tests"

### Poorer readers' comments:

"by the reading scheme - when you've read it you go  
on library books"

"you get harder books at the schools"

"the teachers give you some stories that are hard"

"you keep doing tests - different ones - you can never tell  
if you're getting any better"

Since so few of this type of comment occurred it was not possible to isolate any qualitative differences according to ability grouping but it was evident from the examples above that for some children 'knowing' whether they were 'good' or 'poor' readers depended largely on what might be termed 'external' rather than 'internal' cues.

#### COMPREHENSION of reading material

Only 4 (8%) of the 52 readers offered responses which suggested that their understanding of reading materials was important in indicating whether or not they were "good" readers. Interestingly all 4 children were members of the Better readers' group. Their comments were as follows:

"sometimes I can't remember what I've said so I don't  
know what its about when the teacher asks me"

"some words - I don't know what they mean"

"understanding the words"

"I couldn't understand the words"



It was interesting to note that none of these Better readers equated "good" reading ability with the mere graphic decoding of words (as did the majority of the sample) but that their frame of reference as regards those characteristics which discriminated between "good" and "poor" reading ability was extended to incorporate the idea that the translation of the meaning of the author's message was important. Reading ability was equated, not just with behaviour, but with cognition.

### INDEPENDENT READING

The fifth and least frequently occurring of the aspects of reading mentioned by the children in connection with their perceptions of themselves as "good" or "poor" readers was concerned with the ability to read independently. Only 3 children gave responses which indicated that they took this ability into account but one member from each of the three ability groups made this type of comment. Thus independent reading ability did not figure largely in the children's perceptions of themselves as "good" or "poor" readers, nor was it a concept which could be related to one of the ability groups as opposed to the others (as could the case of COMPREHENSION above). The children's comments, with regard to "poor" readers, were as follows:

#### Better reader:

"the teacher or Mum might tell you the words"

Fair reader:

"if you don't know easy words somebody has to help"

Poorer reader:

"Mam has to help you"

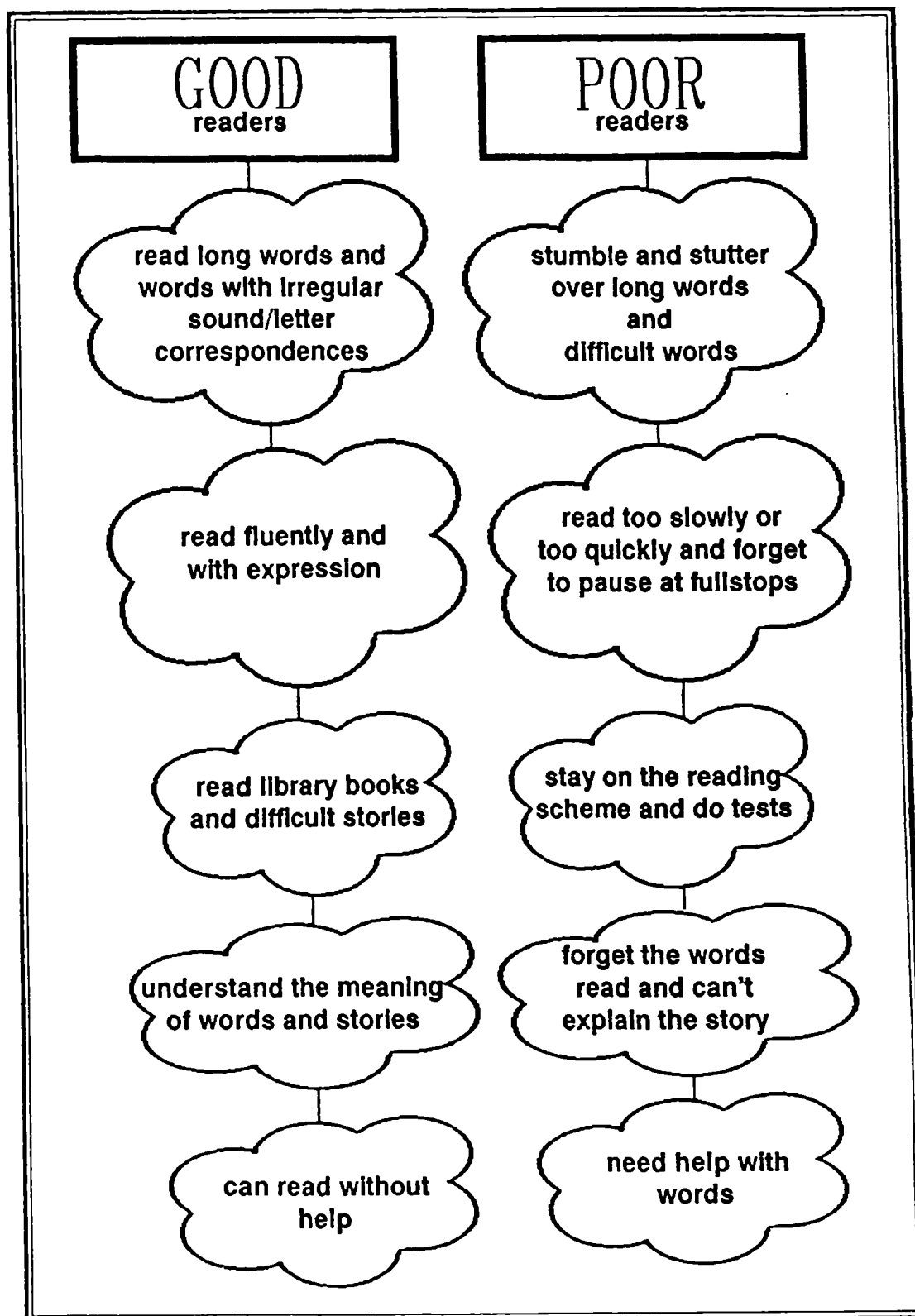
For these children at least the perception of being a "good" or "poor" reader depended to some extent on the amount of "outside help" which was needed - the inference being that a good reader had the ability to read independently.

**Frames of reference for "good" and "poor" reading ability**

Fig.18.4 summarises the findings regarding the frames of reference constructed by the children in relation to what good and poor readers 'do'. Generally speaking there was a good deal of consensus amongst the children from the three ability groups as to the characteristics of a "good" and "poor" reader, i.e. children from each group saw 'good' readers as having the ability to cope successfully with:

- \* the GRAPHIC features of text
- \* the PERFORMANCE skills of reading
- \* INDEPENDENT reading

Fig. 18.4 The children's concepts of GOOD and POOR readers



However, references to the GRAPHIC features of text, when these were mentioned, were most likely to come from Poorer readers, whilst the fewest references to PERFORMANCE skills came from the children in this group. References to INDEPENDENT reading were few and far between but equally likely to come from children in each ability group.

Nevertheless two main differences in constructs did emerge from the children's responses:

- \* The COMPREHENSION of text in connection with 'good' reading ability was mentioned only by children from the Better readers' group.
- \* The allocation of READING materials (as a determiner of whether one was a "good" or "poor" reader) was mentioned only by Fair and Poorer readers.

Whilst it is not appropriate to place too much emphasis on these differences (the number of children concerned being so small) they do go some way towards explaining why a child with a reading age of 10:4 might consider himself to be a "poor" reader whilst a child of a similar chronological age but with a reading age of 8:4 might consider himself to be "good". For example, 2 of the Better group children who mentioned the COMPREHENSION of text as being an important determiner of the "good" reader declared themselves to be "poor" - this despite their relatively high reading ages of 10:8 and 10:4 years. By contrast 2 of the Poorer group children whose criteria for "good" reading ability was whether or not an individual had finished the reading scheme described themselves as "good" readers: their reading age was 8.5 years.

Apart from these individual differences in the frames of reference used by the children to describe "good" and "poor" reading ability, the responses to the questions posed in the first section of the interviews suggested that for most of the 52 readers successful reading involved what might be termed purely 'up-front' skills. A good reader was one who could successfully decode and verbalise the words contained in the allocated text. Once the graphic features of text could be 'tackled' and 'performed' a reader stopped "doing difficult tests" and "moved off the reading scheme". The ability to COMPREHEND the reading material (mentioned by only 4 of the 52 children) and thus to perceive reading as a meaningful activity in its own right was outside the frame of reference for the majority of the children. Taking the children's comments at face value and without the benefit of the data on their oral reading errors a logical assumption would be that the majority of the readers did not see the need to process reading for meaning. That this assumption would be incorrect is borne out very clearly when the semantic acceptability of the SUBSTITUTION errors made on the SELF-texts, PEER-texts and CLASS-texts is considered (see Chapter 15). These data show that even the 17 children with the lowest reading ability (the Poorer group) made a very high percentage of SUBSTITUTION errors which were semantically acceptable and that depending on the type of text read this figure could be as high as 97%. That the children processed text for meaning was also clearly borne out by the 'out-of-context' data (see Chapter 16) which revealed that words read correctly in context sometimes proved too difficult when readers were forced to rely on graphic cues alone.

## CHAPTER 19

RESULTS: THE NATURE OF WRITTEN MATERIAL: NOTIONS OF  
'EASY' AND 'DIFFICULT' TEXTS

The second broad area of enquiry investigated by the structured interviews was concerned with building up a picture of the children's notions of EASY and DIFFICULT texts. By what criteria did the readers judge the difficulty of reading materials and how might their comments reflect their notions of GOOD and POOR readers?

How can you tell if a book is EASY or DIFFICULT?

An examination of the responses to this question showed that the children's comments fell into five broad categories. As with the previous questions concerning GOOD and POOR reading ability it was possible to distinguish the frames of reference operating amongst readers and there was, generally speaking, only scant evidence that these varied according to whether the children were members of the Better, Fair or Poorer reading group, i.e. there were some aspects of EASY/DIFFICULT texts which were mentioned by almost every child. For example, 48 of the 52 readers (92%) saw PRINT SIZE (and page layout) as being a determiner of the ease or difficulty of the text. Moreover, all the children mentioned some aspect of the WORDS contained in a text although a closer examination of these responses showed that they fell into two categories - word length and word difficulty and not every child mentioned both aspects (See Table 19.1 below). Before discussing the responses in more detail (and according to ability groups) it is first necessary to give a general picture of the nature of the children's responses. Fig. 19.1 presents the five categories of response - the order of presentation

Fig. 19.1 EASY and DIFFICULT books: the children's perceptions of the criteria involved

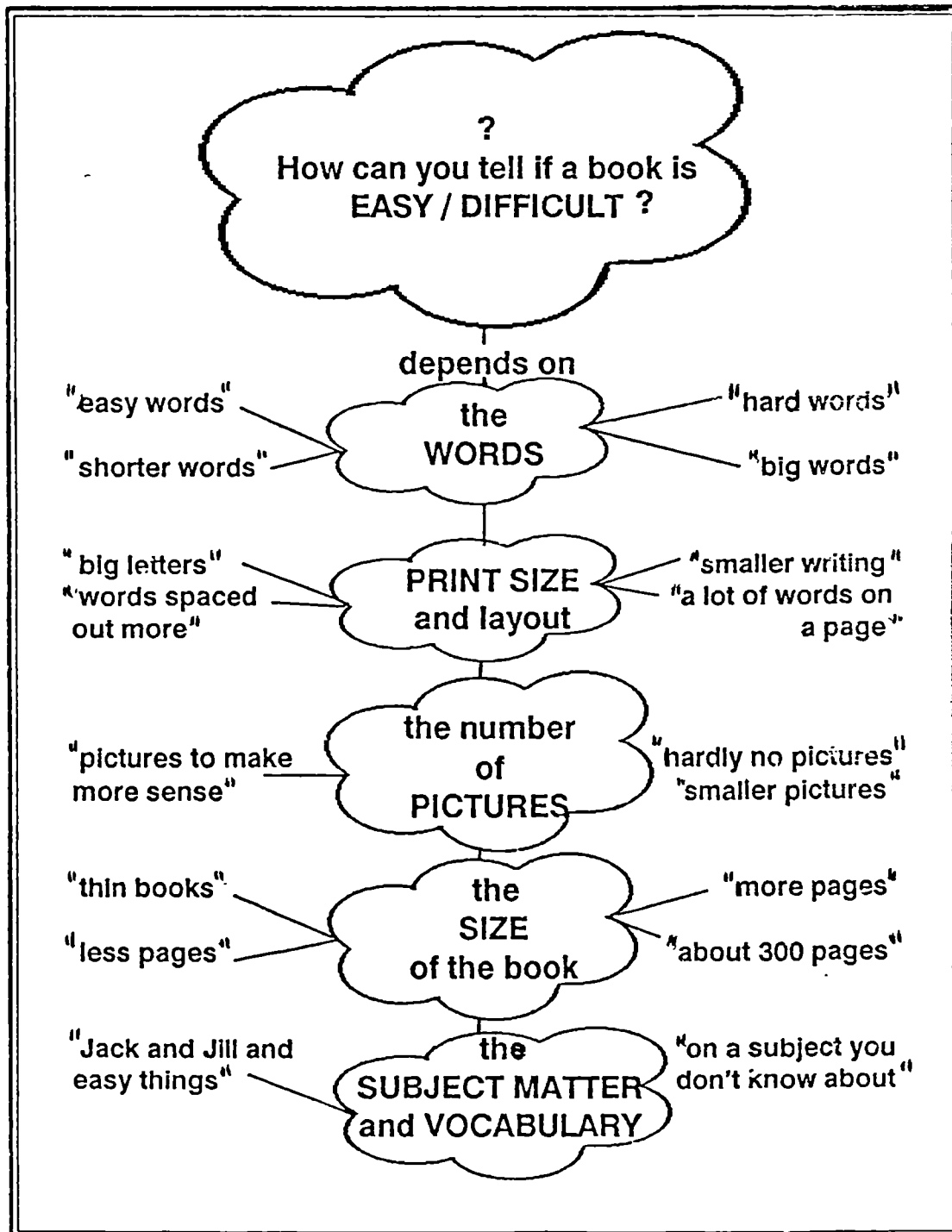
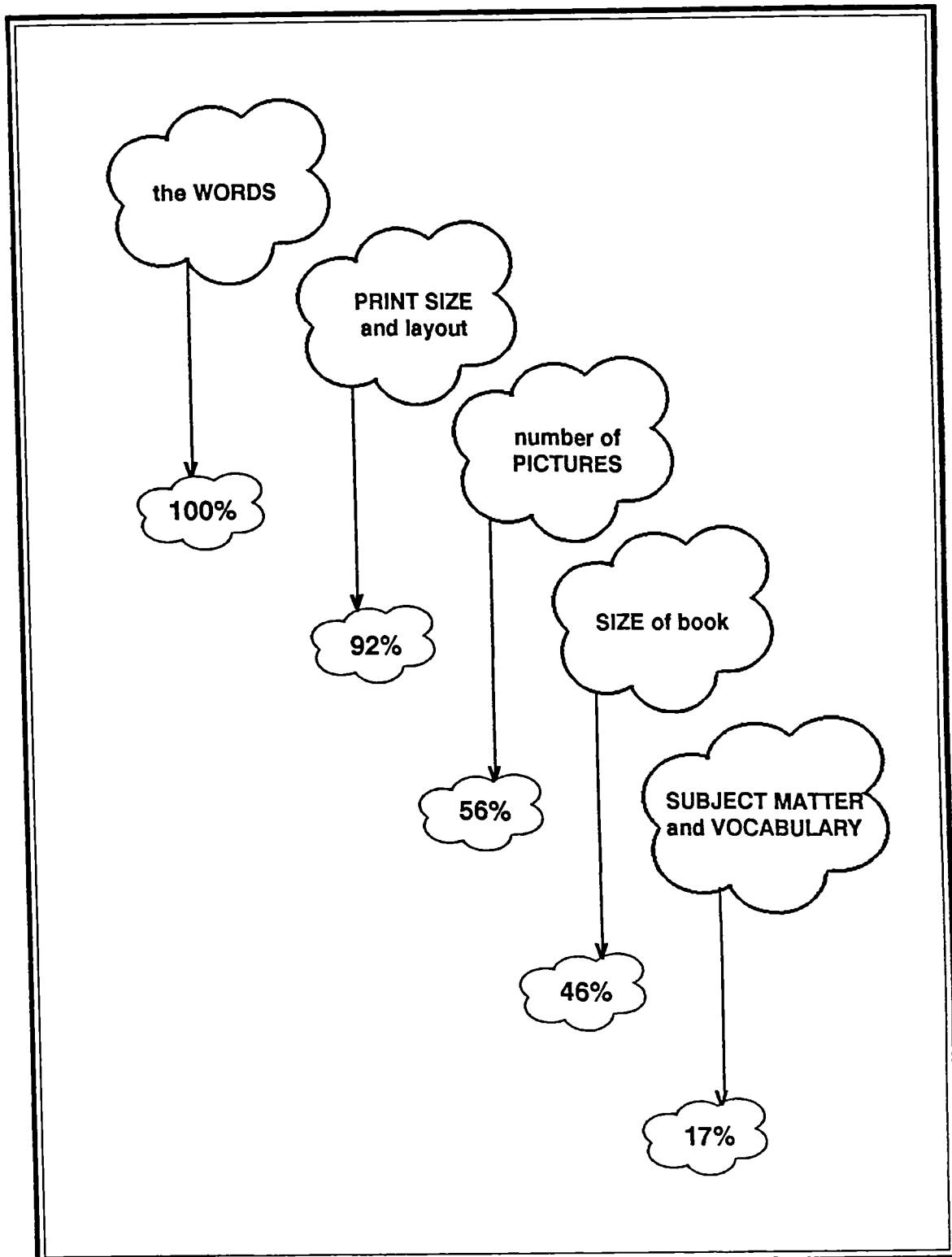


Fig. 19.2 The percentages of children mentioning each of the five aspects of text concerned with their distinction between EASY and DIFFICULT texts





reflects the frequency of the responses.

As Fig. 19.1 shows, books were judged as EASY or DIFFICULT according to aspects of the WORDS, the PRINT SIZE and layout, the number of PICTURES, their physical SIZE and their SUBJECT MATTER and vocabulary. However, as mentioned above, not all children mentioned every aspect, and references to the SUBJECT matter and vocabulary of a text, and how well this might be understood, were the least frequent. Fig. 19.2 provides an overview in terms of the percentage of children mentioning each aspect whilst the subsequent section of this chapter gives examples of the nature and number of the different types of response according to whether the children were Better, Fair or Poorer readers.

Table 19.1 below shows the breakdown of the responses in each of these categories according to reading ability groups.

Table 19.1      Aspects of EASY and DIFFICULT text: the percentage of responses in each category from the Better, Fair and Poorer readers.

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
the WORDS	%	100.0	100.0	100.0	100.0
	n	19	16	17	52
PRINT SIZE and layout	%	95.0	100.0	82.0	92.0
	n	18	16	14	48
number of PICTURES	%	58.0	62.0	47.0	56.0
	n	11	10	8	29
SIZE of the book	%	53.0	31.0	53.0	46.0
	n	10	5	9	24
SUBJECT matter	%	26.0	19.0	6.0	17.0
	n	5	3	1	9

A series of Chi-square calculations indicated no statistically significant variations existed in the proportions of Better, Fair and Poorer group children giving responses concerning PRINT SIZE, PICTURES and SIZE. (The data concerning the WORDS needed no analysis). Unfortunately no statistical analysis was possible in the case of the data relating to SUBJECT matter although, as Table 19.1 indicates, the largest variation in the percentage figures occurred with respect to this category of response. Each category of response is discussed separately below.

### The WORDS

As indicated by Fig. 19.2 and Table 19.1 above every child in the sample of 52 readers mentioned "the WORDS" in explaining the distinction between EASY and DIFFICULT books. This was hardly surprising. However, it was interesting to note that the responses differed in that some children focussed exclusively on the length of words, some focussed on word difficulty whilst a few children mentioned both the length and the difficulty. An analysis of the responses according to the children's reading ability showed some indication that Poorer readers were more likely to focus on word length whereas Better and Fair readers were more likely to focus on word difficulty. This might be taken to indicate that some distinction (according to the children's reading ability) was being made between the number of letters in a word and its difficulty - a distinction not apparent in the responses relating to the GRAPHIC features of words and how GOOD and POOR readers coped with them (see Chapter 18 above). However, this assumption became less attractive when it was noted that more or less equal numbers of Better and Poorer readers mentioned both the length and the difficulty of words

in connection with distinguishing between EASY and DIFFICULT books.

Table 19.2 presents the relevant data.

**Table 19.2**      Percentage of children in each of the three ability groups mentioning WORD LENGTH and/or WORD DIFFICULTY in connection with DIFFICULT/EASY reading material

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
<u>Children mentioning:</u>					
WORD LENGTH	%	10.0	25.0	53.0	29.0
only	n	(2)	(4)	(9)	(15)
WORD DIFFICULTY	%	58.0	62.5	18.0	46.0
only	n	(11)	(10)	(3)	(24)
LENGTH and DIFFICULTY	%	32.0	12.5	29.0	25.0
	n	(6)	(2)	(5)	(13)
TOTALS	%	100.0	100.0	100.0	100.0
	n	(19)	(16)	(17)	(52)

Typical comments in relation to making a distinction between EASY and DIFFICULT books via WORD LENGTH and/or WORD DIFFICULTY were: "Hard books have more long words" or "The words are easier to read in easy books". However, some children were able to elaborate and gave examples of what they perceived as easy and/or difficult words.

Better readers' comments included:

"Easy books have easy words like "cat" and "dog".

" ---easy words with not so many letters - like c, a, t, -"cat".

"---harder, longer words like "suffocation".

Fair readers', comments included:

"Easy books have words which aren't difficult - like "play".

"---easy words like names of people and things".

"---only things like "the" and "is" - easy words".

Poorer readers' comments included:

"Easy books - little words like "and" and "on".

"---easy words like "Peter and Jane".

"Hard books have big words - you have to split them up but I still can't do it".

Generally speaking, and as the examples above illustrate, there was little qualitative difference in these comments and approximately the same number of children in each group were prepared to elaborate in this way.

## PRINT SIZE and page layout

As Fig. 19.2 illustrates, 92% of the children mentioned textual features such as PRINT SIZE and page layout in explaining the difference between EASY and DIFFICULT books so there was a general consensus of opinion that these aspects of a text gave important cues as to its ease or difficulty. There was no statistically significant variation in the proportion of Better, Fair and Poorer readers mentioning this aspect of EASY and DIFFICULT books ( $\chi^2 = 3.86$ ; d.f.2; N.S.).

The children's comments were characterised by the notion that EASY books had "bigger writing" or "only a few words on a page". Examples of their comments are provided below.

### Better readers' comments included:

"Easy books have two or three words on the pages"

"---not as much writing - only three or four lines".

"---easy books have more spaced-out words".

### Fair readers' comments included:

"Difficult books have a lot smaller writing".

"Easy books have bigger print".

"Hard books have smaller writing - it starts at the top of the page".

Poorer readers' comments included:

"Easy books have only about two words on a line".

"---only seven or eight words across a page".

"Difficult books are all writing from the top of the page".

As the examples show, there was very little qualitative difference amongst the children's elaborations according to their reading ability grouping.

### Number of PICTURES

After references to 'WORDS' and 'PRINT SIZE' comments relating to the number of PICTURES were the next most frequently occurring when the children were asked to explain the distinction between EASY and DIFFICULT books: 56% (29) children mentioned this aspect as a distinguishing factor and the respondents were more or less equally divided between the Better, Fair and Poorer ability groups ( $\chi^2 = 1.87$ ; d.f.2, N.S.).

The children's comments were characterised by the belief that DIFFICULT books contained "no pictures" and although some children simply said EASY books had "a lot of pictures" others were able to elaborate on the reason for this:

Better readers' comments included:

"When you look at the picture you know what you're talking about - the teacher used to tell you that".

"---colourful pictures - to learn you to draw".

"---a lot of pictures to help you say what the words are".

Fair readers' comments included:

"You get pictures on one side and big letters on the other - you know what's happening if you look at the pictures".

"---pictures - to help you by looking at the pictures".

"---words at the bottom - pictures at the top - the pictures shows you if you don't understand".

Poorer readers' comments included:

"Pictures to help you".

"Pictures to show you what's happening".

"Pictures to show what's happening - you can look at the picture if you don't know the word - it might tell you what's happening".

Thus, apart from the comment that pictures were included "to learn you to draw" there was a general consensus that the purpose of pictures in EASY books was to aid a reader's comprehension of a story or at least to help a reader to "say what the words are".

As mentioned above, this aspect of the distinction between EASY and DIFFICULT texts was mentioned much less frequently than the aspects of WORD length and difficulty, and PRINT SIZE. However, as indicated above, roughly equal numbers of children from each of the three ability group mentioned PICTURES (approximately 50% of the children in each group) and the elaborated comments were not qualitatively different in any particular way.

### SIZE of book

Forty-six percent (24) of the readers mentioned the SIZE of a book as one of the distinguishing features of DIFFICULT and EASY texts. In general terms the comments were characterised by the idea that EASY books were "bigger" or had "bigger pages". A closer examination of the responses showed that readers from the Better and Poorer ability groups were more likely to mention this aspect of reading materials: in percentage terms 53% of both the Better and Poorer readers, but only 31% of the Fair group children commented on Book SIZE. However, this variation in the proportions Better, Fair and Poorer readers was not shown to be statistically significant ( $\chi^2 = 2.06$ ; d.f.2; N.S.). Moreover, the comments of the Fair group children were very similar to those of the Better and Poorer readers. As the following examples show, the responses in this category were characterised by the adjectives "thicker and "thinner".



Better readers' comments included:

"---the pages are thicker".

"---long thick books with more chapters and pages".

"thinner - not many pages".

Fair readers' comments included:

"---much more pages".

"---not so many pages".

"---not so long books".

Poorer readers' comments included:

"---very thin".

"---more pages - the pages are bigger".

"---thicker - more pages".

In summary EASY books were seen as being short (or thin) with fewer pages than DIFFICULT books and the only qualitative difference in the responses that could be identified was the elaboration from one Better reader who was able to include the notion of "more

chapters" in his description of DIFFICULT books.

### **SUBJECT MATTER and vocabulary**

The idea that there was some distinction to be made between the SUBJECT MATTER and vocabulary of a DIFFICULT as opposed to an EASY book was by far the least evident in the children's responses. As Fig. 19.2 shows only 17% (9) of the children gave this kind of comment. When the data were examined it transpired that, with one exception, references to the content, meaning and/or vocabulary of a book were restricted to readers from the Better and Fair ability groups, as indicated by Table 19.1 above.

No Chi-square calculation was possible (the expected frequencies being too small) but the frequency data showed that whereas 26% (5) of the Better readers and 19% (3) of the Fair readers had mentioned the SUBJECT MATTER and vocabulary of a book as a distinguishing factor of its easiness or difficulty, only 6% (1) of the Poorer readers made this kind of comment. Since the responses in this category were so few, all the children's comments are quoted below.

#### Better readers' comments: (5)

"---on a subject you don't know about".

"---about Jack and Jill and easy things".

"---you might not understand the words even if you read them".

"---words like "she" and "as" and "had" - hard books might be in a different language".

"easy story - then a list of words like "cat" "sat" "mat" - when you could read the list you could read the next story".

Fair readers' comments: (3)

"---difficult words - hard to pronounce - you need to know the meanings".

"---easy books like "Little Bad Wolf" what we wouldn't like - we read some modern Ladybirds now but not them".

"books with easy to understand words - names of people and things".

Poorer readers' comment: (1)

"words you wouldn't be able to understand".

As the transcripts of the children's comments show, the responses varied in terms of whether the references to the SUBJECT MATTER and VOCABULARY of DIFFICULT or EASY books were explicitly linked to the notion of comprehension. For example the comment "you might not understand the words even if you read them" points to the clear distinction (in the mind of the Better reader concerned)

between the de-coding and understanding of print - whereas "on a subject you don't know about" or "about Jack and Jill and easy things" make this distinction by inference only. When the responses are examined more closely, it can be seen that an actual reference to "understanding" or "meaning" is present in only 4 of the 9 responses and that just one of these was offered by a Better reader (quoted above) whereas 2 such comments came from Fair readers ("need to know the meanings"/ "books with easy to understand words") and the single comment in this category made by a Poorer reader referred to DIFFICULT books as containing "words you wouldn't be able to understand". Nevertheless, the references to "easy things" and "easy stories" could be taken to infer ease of understanding and the comment "easy books like "Little Bad Wolf" what we wouldn't like" points to the notion that the content of EASY and DIFFICULT books is different and that this is connected with a reader's taste, reading ability and level of comprehension: "we read some modern Ladybirds now but not them" (i.e. not fairy tales?).

Further qualitative analysis of the responses referring to the SUBJECT MATTER and vocabulary of EASY and DIFFICULT reading books was problematic since the (ever present) danger of the adult interviewer misinterpreting, or indeed re-constructing the intended meaning of a reader's comments perhaps loomed largest of all at this point in the examination of the data from the open-ended questions. What did seem clear was that in quantitative terms very few of the 52 children concerned saw the SUBJECT MATTER and vocabulary of a book as being important in the distinction between EASY and DIFFICULT texts. However, those who so did were not restricted to the Better readers' group as might have been imagined - in proportional terms almost as many Fair readers (18%) as Better readers (26%) made such a

distinction. As regards the Poorer readers - only one of the 17 children in this group indicated that texts could be distinguished by their SUBJECT MATTER or VOCABULARY but his response indicated that the understanding of a text was important - a qualitative feature of the data which was not evident in all the comments of the Better and Fair group children.

#### SUMMARY: Frames of reference for EASY and DIFFICULT books

It was very clear from the comments of the 52 children that they were confident in their ability to discriminate between EASY and DIFFICULT reading materials and that apart from the 100% agreement that the kinds of WORDS (long/short; easy/difficult) contained in a book were important, what might be called the 'gross external features of a text' were the best indicators of whether a reader would find a book appropriate to his or her reading ability. As indicated above the children, as a group, laid great emphasis on such features as the size of the print and the number of pictures and pages, whereas references to the subject matter and comprehensibility of a text were very few. It was interesting to note, however, that these references - unlike the references to comprehension made in response to the GOOD/POOR reader question - were not restricted to the children from the Better readers' group. It was also of interest to note that whereas 6 readers had mentioned the READING MATERIALS ALLOCATED (by the teacher) as contributing to their view of themselves as GOOD or POOR readers, no references to such 'outside influences' appeared necessary when the ease or difficulty of books was under consideration i.e. one might have expected the occasional reference to the teacher's or parent's opinion of DIFFICULT or EASY

texts. Since no such references were made it appeared that the children felt themselves capable of distinguishing between EASY and DIFFICULT books and that this distinction, by and large, could be made by recourse to the external features of texts. Having said this it has to be allowed that an explicit question (from the interviewer) regarding the problem of a reader understanding an EASY as opposed to a DIFFICULT text might have brought forth responses which showed the children did place importance on the comprehensibility of a text. However, this would have been to impose a frame of reference for EASY and DIFFICULT books which, judging by the volunteered responses described above, the majority of readers were unlikely to use of their own volition.

## CHAPTER 20

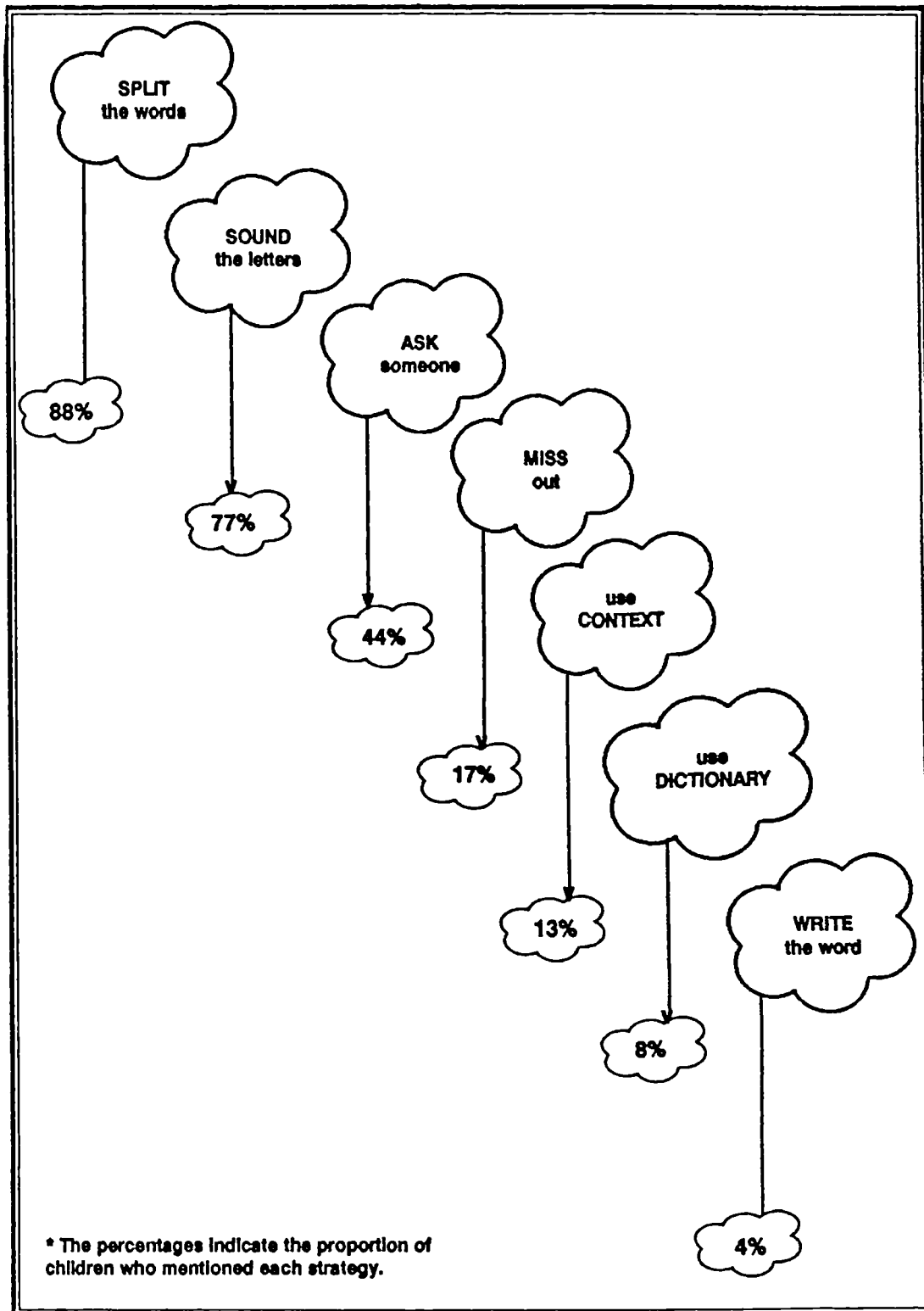
## RESULTS: READING STRATEGIES: CHILDREN'S SOLUTIONS TO THE PROBLEM OF READING 'UNKNOWN' WORDS

During the course of the structured interviews each child was asked the question: "What do you do if you don't know a word?" This question usually followed the discussion of EASY/DIFFICULT reading materials and was an attempt to discover the kinds of problem-solving strategies which children were aware of. In view of the information gained from the oral reading error analysis, it would be interesting to discover whether there were any obvious areas of 'mismatch' between what readers actually did - and what they said they did, i.e. were children aware of the reliance they placed on contextual cues? or were the typical grapho-phonetic strategies the most frequently mentioned? Did Better readers focus on strategies which were different from those mentioned by Poorer readers? Were any unusual or idiosyncratic strategies mentioned by any of the children?

'What do you do if you don't know a word?'

An examination of the children's responses to this question showed that their comments fell into the 7 categories presented diagrammatically in Figure 20.1 The strategies are presented in the order of the frequency with which they were mentioned. As might have been expected 'phonic' strategies such as "splitting the word up" and "sounding the letters out" were by far the most popular solutions to the problem of tackling unknown words - 88% of the children made a reference to "splitting up" and 77% to "sounding out". However, the use of contextual cues: "use the other words in the sentence" was far more rarely mentioned. Only 13% of the whole group of readers made

Fig. 20.1 The children's suggested strategies for solving  
UNKNOWN words \*





any reference to this strategy as a solution to the problem of solving unknown words - this despite the fact that the oral reading error analysis indicated that very high proportions of the children's SUBSTITUTION errors were semantically and syntactically appropriate (see Chapter 15) and that the results of the 'out-of-context' task (Chapter 16) also indicated the children's adeptness at using contextual cues.

Table 20.1 provides a further breakdown of the children's responses by category and by ability group (i.e. the number and percentage of children in each group making each type of response).

Since, for the most part, the data presented in Table 20.1 did not lend themselves to statistical analysis (the expected frequencies being too small to allow a Chi-square calculation in 4 of the 7 categories of response) differences in the frequencies of the responses of the Better, Fair and Poorer readers will be discussed in descriptive terms.

Table 20.1 Responses to the question: "What do you do if you don't know a word?" (by ability group).

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
<u>Reading strategies</u>					
SPLIT up	n	17	13	16	46
	%	89.0	81.0	94.0	88.0
SOUND out	n	14	11	15	40
	%	74.0	69.0	88.0	77.0
ASK someone	n	10	7	6	23
	%	53.0	44.0	35.0	44.0
MISS out	n	4	5	0	9
	%	21.0	31.0	0.0	17.0
use CONTEXT	n	4	2	1	7
	%	21.0	12.0	6.0	13.0
use DICTIONARY	n	2	2	0	4
	%	10.0	12.0	0.0	8.0
WRITE down	n	1	1	0	2
	%	5.0	6.0	0.0	4.0

As Fig. 20.1 and Table 20.1 suggest, by far the largest proportion of the responses to the question "What do you do if you don't know a word?" fell into the "SOUNDING out" and "SPLITTING up" category with the third most frequently mentioned problem-solving strategy being "ASK someone". Out of a total of 131 different responses to the question, 86 (67%) fell into one or other of the first two categories and of the remaining 45 responses, 23 (51%) fell into the "ASK someone" category. Taken together then these three types of comment accounted for 110 (84%) of the 131 responses.

Looking across the ability groups the main feature of the data presented in Table 20.1 is that, with the exception of one reference to the "use of CONTEXT", the responses of the Poorer group children were restricted to the "SPLIT up", "SOUND out" and "ASK someone" categories whereas the Better and Fair group readers gave a small but roughly equal number of responses which were distributed between other 4 categories (i.e. 11 and 10 responses respectively were shared between the "MISS out", "Use CONTEXT," "Use DICTIONARY," and "WRITE down" categories for these two groups.) Simplifying this finding we might say that, whilst there was a general consensus amongst the children that a problem word might be solved by grapho-phonetic strategies such as 'splitting up' and 'sounding out' the letters, or by asking someone else for help when these strategies failed, a few children - though not the Poorer readers - were able to mention alternative problem-solving strategies..

However, in view of the data available from the children's performance on the SELF, PEER and CLASS-texts, and from the 'out-of-context' tasks, the most interesting finding presented by Table 20.1 relates to the very small number of children who made a reference to the "use of CONTEXT" as a problem-solving strategy, i.e. only 7 of the 52 readers gave any indication that they were aware that they used "the other words" to help them solve a problem word and only one of these children was a Poorer reader. This, despite the findings reported in Chapter 16 above which indicated that the children in general, and the Poorer readers in particular, had placed a good deal of reliance on contextual cues in order to facilitate the correct reading of certain 'difficult words' from the SELF, PEER and CLASS-texts. Having reviewed the responses to the question "What do you do if you don't know a word?" in a quantitative fashion the

remaining portion of this section of the present chapter is given over to a more detailed consideration of the qualitative nature of the children's comments. Did any qualitative differences emerge in the way the various problem-solving strategies were described and if so, could these be related to reading ability?

### **'SPLITTING' the words**

As indicated by Table 20.1, 88% (46) of the 52 readers mentioned "splitting up" as a solution to the problem of reading difficult or unknown words and an analysis of the frequency of this type of response with respect to reading ability groups, showed approximately equal numbers of Better, Fair and Poorer readers mentioned this strategy. The majority of responses in this category were simply two or three word utterances such as "split it" or "break it up" and there were few elaborations as to how this strategy might actually work to solve the problem of an unfamiliar or difficult word, i.e. most children gave no indication that words might be split into syllables or units of sound or that the appropriate "splitting up" or "breaking up" of a word might be governed by its length or perceived difficulty. However, there were a few elaborations on the typical "break it up" response: these related the "splitting up" process to the "sounding out" strategy. Just three children gave this kind of elaborated response: interestingly they were all members of the Better readers' group. Their comments are given below:

#### Elaborations on 'splitting words': Better readers only (3)

"split it up and try to pronounce it"

"cut the word in two and say the first word (sic) and then join the other one on"

"split it up into different groups"

As the examples illustrate, the children's elaborations made only oblique references to the relationship between splitting the words and any existing sound/letter correspondences but at least these three children gave some indication that the "splitting up" strategy was something more than an arbitrary breaking down of words in a letter by letter fashion. By contrast, none of the Fair and Poorer group children who mentioned "splitting up" as being an appropriate strategy for the solving of a problem word, offered an illustration of how or why this might be helpful.

### **'SOUNDING' the letters**

77% (40) of the 52 children mentioned "sounding out" as a strategy which they would use if they came across a word they did not know. These responses were fairly evenly divided between the three reading ability groups although slightly fewer of the Fair group children offered this type of comment than the children from the Better and Poorer readers' groups (See Table 20.1 above.)

A closer examination of the children's responses showed the majority to be two or three word utterances: "sound it", "sound it out" and very few children had been prepared to elaborate on these comments. However, some children did offer additional information regarding the "sounding out" strategy and, unlike the "splitting up"

elaborations which were confined to 3 Better group readers, there were "sounding out" elaborations from children in each of the three ability groups.

Better readers' comments (5)

"sound a bit of a word out at a time"

"pronounce the bits"

"say it a bit at a time"

"say the letters separately"

"say a bit at a time then try to put it together -  
try to work out if it's a verb - it might end in 'ing'".

Fair readers' comments (4)

"take each part of the word slowly and sound it out"

"say it in my mind"

"try to say it in my head"

"try to say it - try the first couple of letters"

Poorer readers' comments (2)

"sound out the word slowly and think what the sounds are"

"sound it out in names - then in sounds - magic 'e' don't always make sense in sounds".

Taken together these elaborations point to several aspects of the children's metalinguistic knowledge about how/why "sounding out" strategies might be useful, i.e. The notion of 'building' is implicit in the majority of the comments ("say it a bit at a time"/"sound a bit of a word out at a time" etc). Blending also receives an oblique reference: "try to put it together"/"take each part of the word slowly and sound it out" One Fair reader's reference to the "the first couple of letters" suggests some awareness that salient graphic cues are usually provided at the beginning of a word. Most interesting of all perhaps was the comment from the Poorer reader which illustrated his knowledge of irregular sound/letter correspondences "magic 'e' don't always make sense in sounds" - in other words sounding out letters "in names" (as he puts it) is not a foolproof method - one must sometimes try it "in sounds" too. These elaborations - though few in number - stood out in contrast to the typical "sound it" responses, and the Poorer readers' elaborated comments - though only offered by 2 of the 17 children in that group, were if anything, qualitatively superior to those of the Better and Fair readers. That other readers amongst the 52 children also possessed this kind of knowledge about "sounding out" strategies cannot, of course, be eliminated, but the fact remains that only 11 of the 40 children who mentioned "sounding out" as an appropriate problem-solving strategy, volunteered this complementary information and that 9 of these children were members of the Better or Fair readers' group.

## ASK someone

44% (23) of the 52 children suggested that "asking someone" was an appropriate strategy which could be used when they encountered an unknown word. An examination of the responses showed that this type of response came most frequently from the Better group readers (See Table 20.1 above).

Typical comments in this category of response were simply "ask", "ask someone", "ask somebody" and there were no elaborations other than than from one Better reader who commented "Just go and ask the teacher". Thus there was no explicit indication that readers might ask each other for help and no specific mention of parental help and, although slightly more of the Better readers mentioned "asking someone" as an appropriate strategy, there were no qualitative differences between the responses of the readers according to ability grouping. The most notable feature regarding this category of response was that less than 50% of the children appeared to believe that to ask someone else for help with a difficult word, was an appropriate problem-solving strategy.

## MISS out

As Fig.20.1 indicates very few of the readers felt that it was appropriate to 'MISS out' a difficult word - only 9 (17%) of the 52 readers gave this response: it was interesting to note that none of these children were members of the Poorer readers' group (see Table 20.1 above).



As Fig. 20.1 shows, roughly equal numbers of children in the Better and Fair readers group gave the 'MISS out' response to the question "What do you do if you don't know a word?" An examination of the data showed no particular elaborations of this type of response had occurred with the typical comment being "miss it out" or "leave it out". Although the number of children concerned in this category was so small, it was interesting to note that none of them were members of the Poorer readers' group whereas, as the oral reading error analysis of the SELF, PEER and CLASS-texts had shown, the Poorer group children were much more likely to make REFUSAL errors than children in either of the other two ability groups. (To "miss out" a word would constitute a REFUSAL error rather than an OMISSION error - see Chapter 4 for discussion of these terms). In fact, very few REFUSAL errors had been recorded during the oral reading error analysis - only 70 of the total number of 1536 errors fell into this category - but all except 4 REFUSALS had been made by Poorer readers (See Chapter 15). It seemed then, that whilst none of the Poorer readers were willing to advocate "missing out" a word as an appropriate problem-solving strategy, they were (judging by the oral reading error data) much more likely to resort to this than were the children of the Better and Fair groups. Conversely, whilst none of the Better readers and only 3 of the Fair readers had made REFUSAL errors on the SELF, PEER and CLASS-texts, 4 Better readers and 5 Fair readers advocated "missing out" a word as an appropriate problem-solving strategy. Putting this finding another way, we could say that there was no evidence to show that the children in the sample who had "missed out" (REFUSED) words during their oral reading performances of the SELF, PEER and CLASS-text, saw this as an appropriate problem solving strategy. To "miss out" a word was thus perhaps a matter of necessity rather than choice. However, since the

number of children involved was so small, such an interpretation of the data can only be speculative and the findings relating to the apparent mismatch between what some of the children actually did when they read aloud, and what they suggested might be done, can best be regarded as an interesting paradox.

#### use CONTEXT

Only 13% (7) of the 52 readers mentioned the use of contextual cues as an appropriate strategy for attempting to read a word they did not know. This finding was extremely interesting since the oral reading error analysis had shown that a very high percentage of the SUBSTITUTION errors made by the children were semantically/syntactically acceptable and the 'out-of-context' task had also demonstrated the children's adaptness at using contextual cues (See Chapters 15 and 16). In simple terms this finding seemed to indicate very clearly that the majority of children possessed little metacognitive knowledge about the very problem-solving strategy that was most heavily relied upon and that, judging by data from the 'out-of-context' tasks, the strategy that was often very successful - particularly for the children with the lowest reading ability. Nevertheless, as Table 20.1 above indicates, only one member of the Poorer readers' group mentioned the use of contextual cues as a possible solution to the problem of reading an unknown word.

The Better group children were the most likely to mention the use of contextual cues as a problem-solving strategy but even so only 21% (4) of the children in this group did so. The comments of these children, of the 2 children in the Fair group, and of the one child

in the Poorer group, were examined in order to see how they described the use of the contextual information as being helpful.

#### Better readers' comments (4)

"I look at the sentence and see what I can fill in"

"I look at the words around - they might explain - then I have a guess"

"Go back and read the sentence again - you might get more of an idea"

"You can go backwards too - it helps you get more of the before words"

#### Fair readers' comments (2)

"I read on a bit more then I fit in and see what word could go"

"Read the bit before so you could almost guess what it is"

#### Poorer readers' comment (1)

"Sometimes they make sense if you read the other words"

As the responses show, the notion of using the cues provided by the linguistic context in order to 'make sense' of the target word within the sentence was very clearly expressed by the 7 readers

concerned, and the strategy of using the preceding context was mentioned explicitly in 3 of the 7 comments "go backwards"/"read the bit before" etc). This was interesting in that the oral reading error analysis had shown that very high percentages of the 52 children's SUBSTITUTION errors on each type of text had been semantically acceptable 'with preceding context' (overall percentages of 94%, 85% and 85% respectively for the SELF, PEER and CLASS-texts) whereas the corresponding percentages for 'succeeding context' had been lower on two of the three types of text (SELF text and PEER text - see Chapter 15). However, the comment from one of the Fair readers - "I read on a bit more and then fit I in..." suggests the use of the succeeding context as a problem solving strategy and, of course, "look at the words around", "read the other words" and "look at the sentence" could be taken to indicate that the children in question were implying that both the preceding and succeeding context were useful.

A second notion, made explicitly in 2 of the 7 comments and implicitly in at least 3 of the 5 remaining responses, referred to a strategy which might be called 'informed guessing', i.e. the references to getting "more of an idea" and to "fitting in/filling in" suggested an informed guess at the target word would be appropriate given that the contextual cues had been considered. (It was interesting to note that none of the children actually mentioned 'guessing' as a problem-solving strategy without qualifying it in this way.)

Since the responses in the use of CONTEXT category were so few in number it would be inappropriate to try to distinguish any qualitative differences between the comments of the children

according to their reading ability - generally speaking all 7 of the comments conveyed a meaningful description of how the use of "the other words" might be a successful strategy in helping to solve the problem of an unknown target word. (Even the somewhat cumbersome, "it helps you get more of the before words" constituted a meaningful response).

Similarly, in quantitative terms, it is only possible to report that when references to the use of the linguistic context did occur they were more likely to come from the Better readers than from children in the Fair or Poorer readers' groups. What does seem very clear from the children's responses is that whilst the oral reading error analysis had indicated that all 52 of the readers in the sample made use of contextual cues in reading the SELF, PEER and CLASS-texts (as demonstrated by the high percentages of semantically/syntactically acceptable SUBSTITUTION errors and by the data from the 'out-of-context' tasks) only 7 readers gave any verbal indication that they were aware of their ability to do this.

### **Use of a DICTIONARY**

Just 8% (4) of the 52 children suggested that making use of a DICTIONARY was a helpful solution to the problem of reading an unknown word. The 4 readers concerned were equally divided between the Better and Fair readers' groups as shown in Table 20.1 above. The comments of the 4 children concerned were as follows:

### Better readers' comments (2)

"Look it up in a dictionary for the meaning - you might be able to know what it says"

"Look it up in a dictionary - you'll know the meaning if you don't know the word".

### Fair readers' comments (2)

"Look it up and find out what it means"

"Find a dictionary - I'd have more idea".

Whether or not the 4 children actually made use of this particular strategy (and how often they did so) their comments - particularly those of the 2 Better readers - suggested that they understood how and why it could be useful i.e. none of the children merely said "use a dictionary". Whilst the notion of the importance the meaning of a word was implicit in each of the comments, it was interesting to note that the Better reader who remarked "you'll know the meaning if you don't know the word" was implying that even though the use of a dictionary might not help with the actual graphophonic decoding, it was nevertheless an important aid to the comprehension of the text.

### **WRITE the word**

4% (2) of the 52 readers commented that they would attempt to solve an unknown word by writing it down. One of these children was a

member of the Better readers' group and the other was a Fair reader. Their comments are provided below.

Better reader's comment

"Write out the word a lot of times and learn it"

Fair reader's comment

"Write it down and keep trying for it"

As their comments show, the "writing down" strategy appeared to be viewed as a way of focussing attention upon the problem-word. In the case of the Better reader particularly, the "writing down" of the target word constituted a method of self-instruction which would pay dividends when the word in question was next encountered (i.e. the word would be "learnt").

## COMBINATIONS of reading strategies

One final analysis of the children's suggested problem-solving strategies was appropriate in order to discover whether or not individual children differed as regards the number of suggestions they had made in answering the question "What do you do if you don't know a word?' i.e. Was it the case that (most?) Poorer readers could suggest only one way of solving a problem word whilst (most?) Better readers could suggest a combination of strategies? An examination of the data revealed that every child in the sample of 52 readers had been able to give at least one suggestion as to how an unknown word

might be tackled and that the largest number of different suggestions put forward by any one individual was 4. Table 20.2 presents the relevant data.

Table 20.2 The number of children in each of the three reading ability groups who suggested single or combined reading strategies for solving unknown words.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
1 strategy	1	2	2	5
2 strategies	6	6	10	22
3 strategies	9	5	4	18
4 strategies	3	3	1	7
TOTALS (children)	19	16	17	52

As Table 20.2 indicates 90% (47) of the children were able to suggest more than one means of attempting to solve an unknown word and 48% (25) were able to suggest 3 or more strategies. However, the data suggest that the readers with the highest measured reading ability were able to generate the most suggestions, i.e. 12 of the Better readers and 8 of the Fair readers gave a combination of 3 or more strategies as opposed to only 5 of the Poorer readers. In order to clarify this finding the data were collapsed into two categories as shown in Table 20.3 below.



Table 20.3 The number of children in each reading ability group who suggested 1 or 2 problem solving strategies compared with those who suggested 3 or 4 strategies.

	Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
1 or 2 strategies	7	8	12	27
3 or 4 strategies	12	8	5	25
TOTALS (Children)	19	16	17	52

However, a Chi-square calculation showed that the variation in the frequencies of Better, Fair and Poorer readers suggesting 3 or more strategies failed to reach statistical significance ( $\chi^2 = 4.12$ ; d.f.2. N.S.). Nevertheless, the data can be interpreted to show the tendency of some individual Better and Fair readers to suggest more problem-solving strategies than the Poorer readers. As the earlier analysis of the children's responses suggested, the most likely combination of 2 strategies was "SPLIT up/SOUND out", or when 3 strategies were suggested, "SPLIT up/SOUND out/ASK someone" was the most commonly occurring combination.

#### READING STRATEGIES: summarising the findings

The question "What do you do if you don't know a word?" was asked in order to discover the nature of the metacognitive/metalinguistic knowledge the children were able (or willing) to express regarding their perceived means of solving the problem of encountering an 'unknown word'. The main findings which emerged from the children's comments are listed below:

- \* Each of the 52 readers was able to respond positively to the question with the majority of children suggesting 2 or more ways of solving the problem of an unknown word.
- \* The children's responses fell into 7 categories:
  - "SPLITTING up"
  - "SOUNDING out"
  - "ASKING someone"
  - "MISSING out"
  - "using CONTEXT"
  - "using a DICTIONARY"
  - "WRITING the word"
- \* The grapho-phonetic strategies ("SPLIT up/SOUND out") were by far the most frequently advocated problem-solving strategies and a large percentage of the children also saw "ASKING someone else" as an appropriate solution. Taken together these 3 types of comments accounted for 84% of the responses.
- \* Only 7 (13%) of the 52 children gave responses which indicated their awareness of the use of the linguistic context as a problem-solving strategy. This finding was of particular interest since the oral reading error analysis had indicated that the children made considerable use of contextual cues.

The main findings regarding similarities and differences between children in each of the 3 reading ability groups were as follows:

- \* There was evidence to suggest that the Poorer readers' knowledge of problem solving strategies was 'narrower' than that of the children in the Better and Fair ability groups: the Poorer readers mentioned fewer strategies which would help them solve an unknown word.
- \* Although the number of children who mentioned "SPLITTING up" as a problem-solving strategy was approximately equally distributed between the 3 ability groups, only children in the Better readers' group gave 'elaborated' comments which explained how/why this strategy might be useful.
- \* Only readers from the Better and Fair groups mentioned that they might "MISS out" an unknown word. The oral reading error analysis had shown the Poorer group children were most likely to "MISS out" (REFUSE) words so their failure to mention this as a problem-solving strategy suggested that their REFUSALS were a matter of necessity rather than a consciously applied strategy which they perceived as appropriate when they encountered an 'unknown' word.
- \* There were no qualitative differences in the "use of CONTEXT" comments from the 4 Better, 2 Fair and 1 Poorer readers, i.e. each child was able to explain how "the other words" might be useful.
- \* The children who mentioned the use of a DICTIONARY as a problem solving strategy were members of the Better and Fair readers' groups.

Generally speaking there were no dramatic differences, quantitatively or qualitatively, between the responses of the children according to their reading ability, and the most interesting finding which stemmed from the question "What do you do if you don't know a word?" related to the mismatch between the children's use of the linguistic context during their actual reading performances and their general failure to mention this as a problem-solving strategy.

## CHAPTER 21

**RESULTS: THE BASIC VOCABULARY OF READING AND WRITTEN LANGUAGE:  
NOTIONS OF THE TERMS WORD; LETTER; FULLSTOP; COMMA; QUESTION MARK;  
SPEECH MARKS AND APOSTROPHE**

This section of the structured interview was designed to explore the children's knowledge and understanding of some of the 'basic vocabulary' associated with reading and written language. The focus was placed first of all upon the terms WORD and LETTER whilst a later section of the interviews returned to the theme of terminology and investigated the children's notions about some of the terms and symbols associated with the punctuation of text - FULLSTOPS, COMMAS, QUESTION MARKS, SPEECH MARKS and APOSTROPHES. These were all terms which, it could be assumed, were commonly used by teachers during reading (and writing) 'sessions' and the purpose of the investigation was to discover how well such terms were understood by the children. As mentioned in Chapter 17 a good deal of research along these lines has been carried out with children of Primary school age and this has shown, by and large, that even the most basic terms such as 'word' and 'letter' are poorly understood. It has been suggested that children should be helped 'consciously and carefully' to develop a 'technical vocabulary' of reading (Reid 1966) in order to improve reading progress. Nevertheless, there is little information available relating to the presence or absence of this kind of metalinguistic knowledge in older children and no attention appears to have been paid to the older remedial reader's perceptions of the 'basic vocabulary' of reading. Did the 11 year old children who took part in the present author's study have a clear idea of such terms as 'WORD' and 'LETTER'?

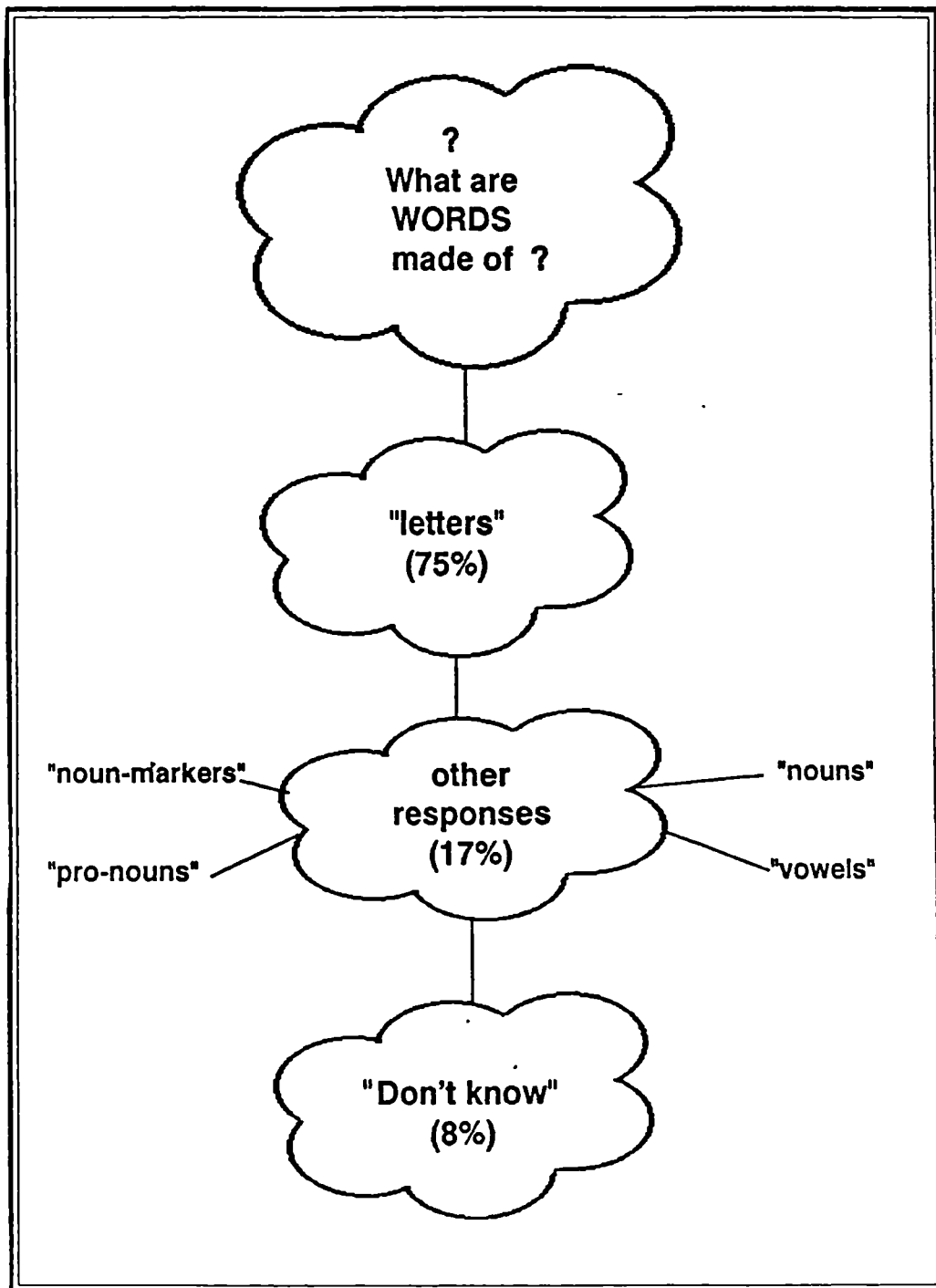
What knowledge did they have of the terms associated with the basic punctuation of text and the messages that punctuation symbols signal as regards reading for meaning? Did there appear to be a relationship between the quantity and/or quality of the children's responses and their reading ability? The results of these aspects of the structured interviews are presented in descriptive form below.

### The terms WORD and LETTER

During the early part of the structured interview it was established that all the children had what might be called a 'working knowledge' of the terms WORD and LETTER. For example, using their reading books, each of the 52 children was able to "point to a word", to "write a word" and to write three additional words which began with "the same letter" as the word they had initially written. It would, therefore, have been easy to assume that no confusion surrounded these very basic terms. However, the author wished to probe the children's concepts of these terms a little more deeply in order to discover whether or not their free responses to the question "What are words made of?" would reveal any apparent confusion. The children's responses are reported below.

As Fig.21.1 suggests 75% (39) of the 52 children gave the response "letters" when asked the question "What are words made of?" and 8% (4) gave a "Don't know" response. However, 'other responses' (detailed later) also occurred from 17% (9) of the children and it was this type of response which was of most interest in revealing uncertainty surrounding the terms WORD and LETTER on the part of the children involved. An examination of the data showed that the

Fig. 21.1 Categories of response to the question: "What are words made of?"



majority of these 'other response' children were members of the Poorer readers group. Table 21.1 shows the breakdown of responses according to ability grouping.

Table 21.1 Responses to the question "What are words made of?":  
ability groups

	Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
<u>Responses</u>				
"letters"	16	14	9	39
other responses	0	2	7	9
"Don't know"	3	0	1	4
Totals (children)	19	16	17	52

Unfortunately no statistical analysis of the data in Table 21.1 was possible but it can be seen that the majority of the children in each of the three ability groups was able to state that words were made of 'letters' and that all the readers in the Better group gave either this response or a "Don't know" response. ("Don't know" responses were difficult to fathom in that it could not be ascertained whether the children concerned really 'didn't know' the answer or whether they were confused by the question. It was interesting to note though that 3 of the 4 "Don't know" responses came from the Better group readers rather than from the Fair or Poorer group children as might have seemed more likely.) However, as mentioned above it was the 9 comments which fell into the 'other responses' category which were of most interest. These are detailed below (Table 21.2).



Table 21.2 'Other responses' to the question "What are words made of?" from the 2 Fair and the 7 Poorer readers

WORDS are made of .....

*SARAH:	"Noun-markers"
*AMANDA:	"Pronouns"
IAN:	"print"
EDWARD:	"vowels"
MARK:	"vowels"
SANDRA:	"some vowels in them and nouns"
JOANNE:	"you pick a word out the alphabet and make a word up"
ROSEMARY:	"sounds"
NICOLA:	"capital letters and fullstops"

\*SARAH and AMANDA were Fair readers.

Perhaps the first point which should be made about the children's responses is that not all of them could be regarded as 'confused' or 'unsuitable' answers to the question "What are words made of?" since in a very real sense words are made of "print" (IAN) or "sounds" (ROSEMARY). However, these two responses apart, the most striking feature of Table 21.2 was that it revealed the children's tendency to make idiosyncratic use of the technical vocabulary of language/reading - terms such as "pronoun", "noun", "noun-marker" etc. Terms which, apparently, might easily become sources of confusion if used by the teacher in the context of an English/reading session. Having said this it would of course be inappropriate to attempt to gauge the extent of confusion which was suggested by the children's use of technical these terms or to suggest that the terms were 'misused' to the same degree. For example, the notion that words are made of "vowels" (EDWARD and MARK) may not be altogether right - but neither

is it altogether wrong - and SANDRA's suggestion that words have "some vowels in them and nouns" might indicate some understanding of the term 'vowel', as well as some confusion regarding 'nouns'.

However, some of the responses indicated what seemed to be the more or less arbitrary use of a technical term (e.g. SARAH's "noun-markers" and AMANDA's "pro-nouns") whilst the most obvious confusion over the terms word and letter was apparent in JOANNE's response: "you pick a word out the alphabet and make a word up". NICOLA's suggestion that words are made of "capital letters and fullstops" was perhaps the strangest response of all in the sense that it seemed mostly unlikely that these were terms she had no understanding of (unlike say AMANDA's "pro-noun") and yet they were used in what appeared to be a totally inappropriate context.

All in all it was obvious that for 7 children at least, even the most basic terms WORD and LETTER were potential sources of confusion. The finding that these readers were amongst those with the lowest reading ability in the sample of children studied suggested some relationship between reading difficulties and a lack of the metalinguistic knowledge - knowledge which might be regarded as part and parcel of acquiring skill in the reading process.

#### Terms associated with the PUNCTUATION of text

The children's understanding of the terms WORD and LETTER was investigated during the early part of the structured interviews and at a later point - usually after a more relaxed and wide-ranging discussion of EASY and DIFFICULT books (see chapter 19) - the focus of

the interview returned to the theme of 'technical vocabulary' and to a discussion which centred around the terms FULLSTOP; COMMA; QUESTION MARK; QUOTATION MARKS and APOSTROPHE. There were three main aspects of the investigation of the children's knowledge and understanding of these terms:

1. Were the terms part of the children's own vocabulary?
2. Were the terms meaningful to the children in relation to the function of the punctuation symbols which they represent?
3. Were there any apparent differences in the knowledge and understanding of such terms according to the children's reading ability?

The results pertaining to each of these three aspects of the investigation are presented below.

#### 1. Were the terms FULLSTOP, COMMA, QUESTION MARK etc. part of the children's own vocabulary?

The first aspect of the investigation of the children's knowledge and understanding of the terms associated with punctuation symbols was concerned with whether or not terms such as FULLSTOP, COMMA, QUESTION MARK etc. were a part of their own vocabulary, i.e. could they apply the appropriate technical terms to the symbols which they represented? Since each child had been asked to bring a reading book to the interview session it was possible to investigate the question in a relaxed and straightforward manner. The child was asked to choose a page from the book and the author said something like "Yes - I want to

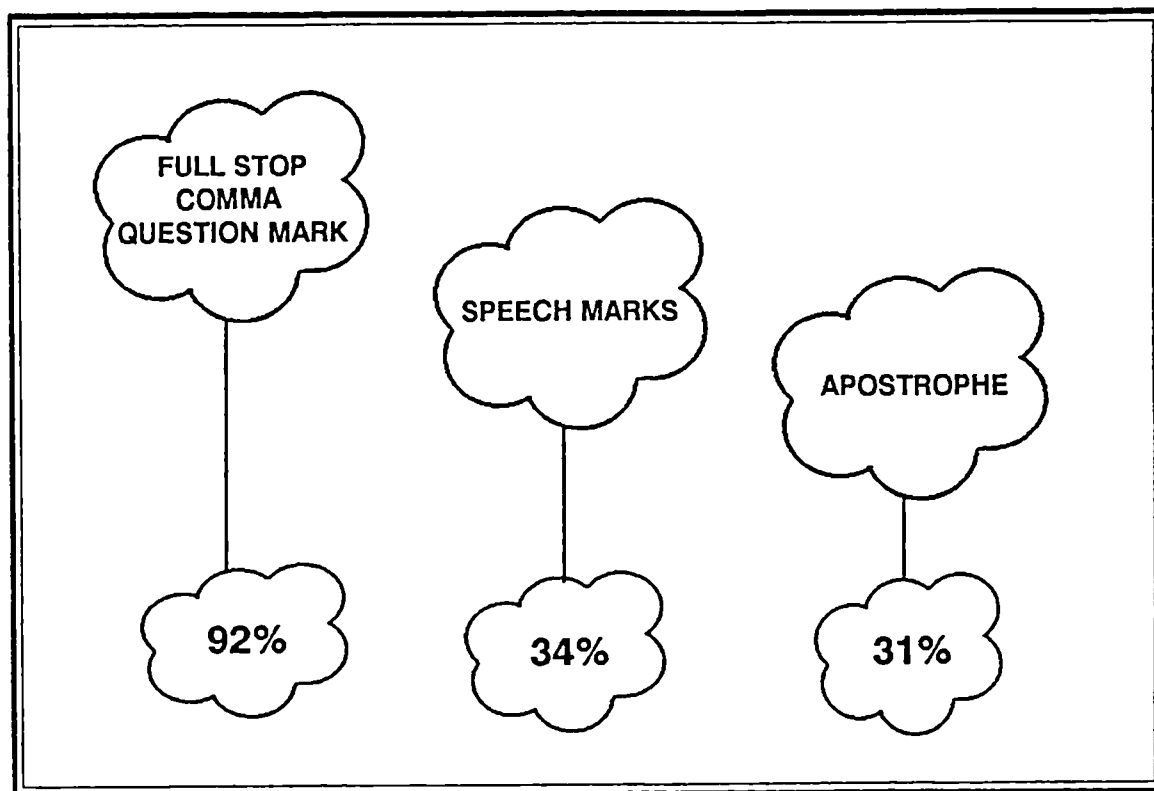
find something on this page that isn't a word and see if you can tell me what it is. Yes - here we are [pointing (for example) to a fullstop] what do we call this?" This procedure allowed a calculation of the number of children producing the appropriate terms from their own vocabulary as well as providing the author with the opportunity to record any inappropriate terms offered as responses to the various symbols. The number of children able to produce the appropriate terms to the five punctuation symbols is illustrated by Fig. 21.2 below.

As Fig.21.2 suggests a very high percentage of the 52 readers were able to make appropriate use of the terms FULLSTOP, COMMA and QUESTION MARK - 48 of the 52 children could produce these terms in response to the punctuation symbol which they represented. By contrast only about a third of the children were aware of the terms appropriate to the QUOTATION MARKS and APOSTROPHE symbols. An examination of the responses of the children who were unable to name the five symbols showed that each of the individuals concerned had given a "Don't know" response. In other words there was no evidence to suggest that these children possessed the appropriate vocabulary but were confusing the terms - there were no actual 'incorrect' responses.

## 2. Were the terms FULLSTOP, COMMA, QUESTION MARK etc. meaningful to the children?

The discovery that a child can (or cannot) produce the appropriate technical term for a feature of punctuation does not necessarily imply anything about the child's understanding of the term and how that understanding can help (or hinder) the comprehension of a text. As one of the Fair readers in the present study commented "poor

Fig. 21.2 The percentages of children able to name the 5  
PUNCTUATION SYMBOLS



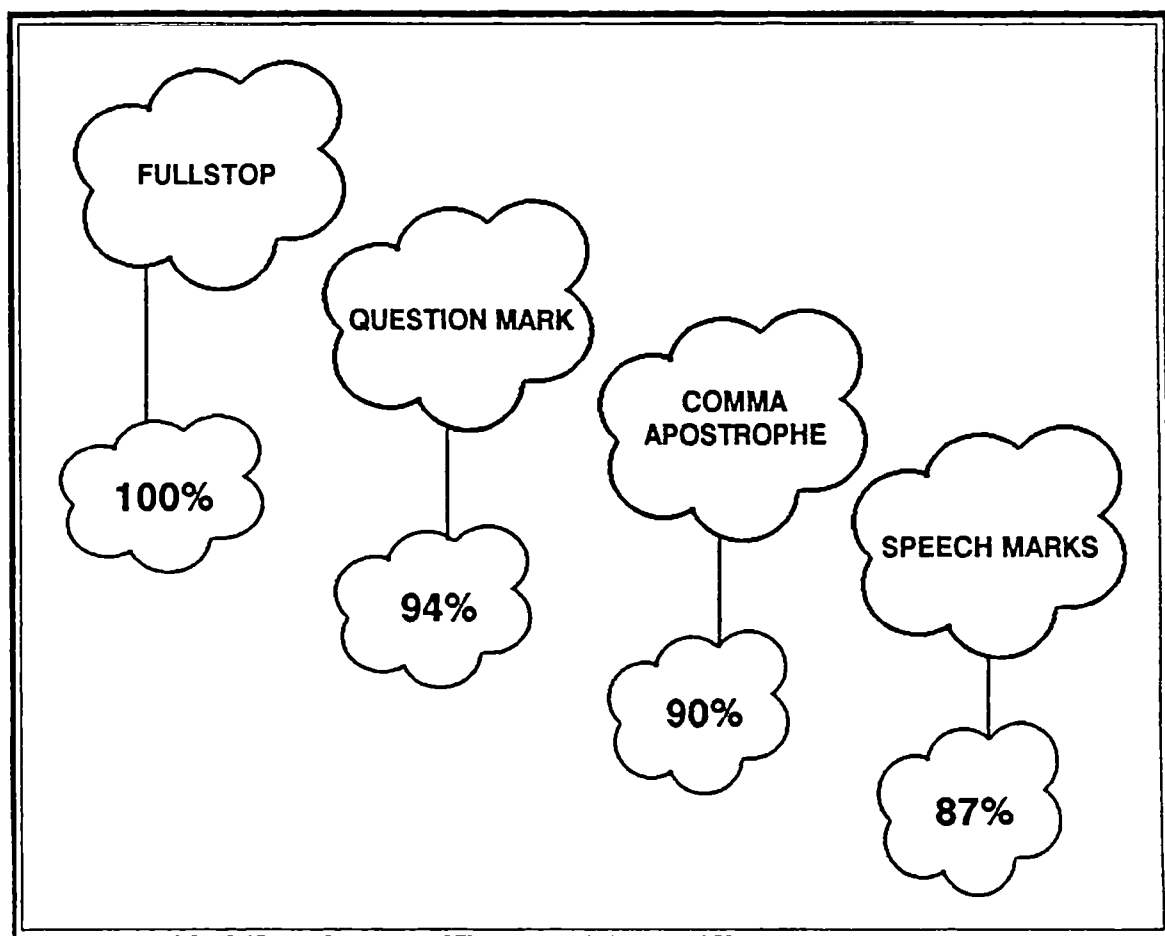
readers carry on when there's a fullstop" (see Chapter 18) and this suggested that she at least was aware that successful reading involves not just the decoding of the words on the page but also the interpretation of other kinds of cues. Thus, as well as being asked if they could name the various punctuation symbols appearing on a typical page of their reading books, the children were also asked a supplementary question designed to investigate their understanding. The response to the question "What do we call this?" was followed by a comment such as "Yes - it's a fullstop - I wonder if you can tell me anything about fullstops - Why do we have them? What are they for?" The readers were asked to discuss each of the 5 terms in this way and their comments were recorded. Fig.21.3 gives an overall impression of the percentage of the children's responses which were classified as appropriate answers to these questions.

As Fig.21.3 shows very high percentages of the readers were able to give appropriate explanations of the functions of the FULLSTOP, QUESTION MARK, etc. and it was of particular interest to note that many more children were able to explain the function of the SPEECH MARKS and APOSTROPHE symbols than had been able to name these terms (see Fig.21.2 above for comparative data). However, there were qualitative differences amongst the appropriate explanations of each term and examples of these are presented below where the children's responses to the 5 symbols are each discussed in turn.

### FULLSTOP

An examination of the data showed that each of the 52 children had been able to give a response intended to explain the purpose of the FULLSTOP. In the course of these explanations there were many

Fig. 21.3 The percentages of children giving appropriate answers  
to the questions concerning the function of the 5  
PUNCTUATION SYMBOLS



references to "the end of the SENTENCE" which illustrated the readers' awareness and understanding of this additional 'technical term'.

Explanations varied in terms of elegance and eloquence but generally speaking there was a very clear appreciation of the notion that FULLSTOPS were concerned with the "sense" of a text and that to ignore them would result in comprehension difficulties for the reader. Some examples of the children's comments are provided below:

#### Better readers

CLAIRE

"... it wouldn't make sense if you didn't pause"

ANDREW

"they end the sentence - it doesn't sound right if you stop in the wrong place"

#### Fair readers

MELANIE

"it tells you to stop - it won't make sense if you just carry on"

ROBERT

"to tell you when the sentence has ended - take a break - it doesn't make sense if you don't"



Poorer readers

SANDRA

"it tells you you're at the end of the sentence - if  
you don't stop it doesn't make sense"

IAN

"it's so it makes sense - if you carried on it would  
be one long sentence - it wouldn't make sense"

The examples above are representative of the responses from the 52 children and illustrate their ability to give meaningful explanations of the purpose of the FULLSTOP. It was of particular interest to note that the 4 children who had been unable to recall the term were nevertheless capable of explaining its meaning. Their responses are provided below - 3 of the children were Poorer readers and the remaining child was a member of the Fair readers' group.

The responses of readers unable to recall the term FULLSTOPPoorer readers (3)

BRIAN

"it tells you to stop - if they weren't there it'd  
be a jumble because you'd just carry on"

CRAIG

"you take a breath - then start again"

MARK

"you've finished a sentence - you stop - then start  
a new sentence"

Fair reader (1)

AMANDA

"it's when to stop - you can take a breath - you'd  
read too fast"

Finally it must be noted that "taking a breath" (or "having a little breather" as one child put it) figured largely in many of the comments - opinion seemed divided on whether this should be "a deep breath" (LISA) or "a little breath" (LEE) but the general consensus was that an absence of fullstops in a text would lead to dire respiratory as well as comprehension problems!

COMMA

As Fig.21.2 above shows 92% (48) of the 52 children had been able to apply the term COMMA to the corresponding symbol in their reading books and a further examination of the data showed that 90% (47) of the sample had offered a meaningful explanation of the term. However, there was little correspondence between children who gave "Don't know"

answers regarding the term and those who answered "Don't know" when asked to explain it. In fact only 1 child knew neither the term COMMA nor its function. This meant that the remaining 3 children who were unable to recall the term were nevertheless able to explain the function of the COMMA, whilst 4 children knew the term but could/would offer no additional information - surprisingly these 4 children were members of the Better readers' group (see below).

Generally speaking the children's attempts to explain the function of the COMMA were very meaningful and many of the readers made some reference to the FULLSTOP as a point of comparison and attempted to distinguish the different functions. Once again responses varied in terms of elegance and eloquence but they were characterised by references to: the need to pause, the need to "break up" a sentence, and the use of the COMMA to organise a list of items within a sentence. Examples of the children's comments are provided below.

#### Better readers

TINA

"if you put a comma in the middle you can have a longer sentence and you can take a breath"

LEE

"it's nearly the same as a fullstop but not at the end of a sentence - if it's a very long sentence you have one"

Fair readers

AMANDA

"it's for when you want to stop but not at the end of a sentence"

PAUL

"you just take a little breath - or you use them in a list"

Poorer readers

SANDRA

"instead of 'and' you can put a comma"

MARK

"it's a pause - but not as long as a fullstop - it's in the middle of a sentence"

Less sophisticated, but arguably not less meaningful responses suggested that the purpose of the COMMA was to signal that the reader should "hang on a bit", or "wait a bit" and there were the usual references to "breathing" - the consensus on this point being that the comma afforded the opportunity of "a breather - but smaller than the fullstop" (IAN).

Generally speaking then the children were able to offer meaningful explanations of the term COMMA although 5 "Don't know" answers occurred in response to this question whereas all the children had been able to offer some explanation of the term FULLSTOP.

### QUESTION MARK

As Fig.21.2 above shows 92% (48) of the 52 children were able to name the QUESTION MARK but a further examination of the data showed that every individual had made some response to the question concerned with the function of the symbol. In other words although 4 of the children were actually unable to name the symbol they were willing to offer an explanation of its purpose.

When the 52 responses were examined it became evident that 49 children had given meaningful responses whilst 3 explanations were clearly inappropriate. The qualitative nature of the meaningful responses can be summed up very briefly since all the individuals concerned simply said "it comes at the end of a question", or words to that effect, whereas the 3 non-meaningful (or inappropriate) responses were very different from each other - each one conveying a different notion of the purpose of a QUESTION MARK. The comments of the children concerned are given below.

VERNON (Fair reader)

"it comes at the end of a sentence when you're talking about a thing"

LISA (Poorer reader)

"it's like a name - like an extra word"

BRIAN (Poorer reader)

"it's there to tell you to stop - then to carry on"

As the examples show none of the 3 children concerned appeared to equate the QUESTION MARK with the notion of questioning and this was all the more strange since each of them had in fact been able to name the symbol. Speculating about the comments it might be argued that VERNON was confusing the QUESTION MARK with some notions of QUOTATION (or speech) marks, and that BRIAN regarded it as something akin to a FULLSTOP or a COMMA. However, LISA's response shows no such confusion of symbols and her novel explanation of the function of the QUESTION MARK must be reported as just that - a novel explanation!

Summarising the children's responses regarding the function of the QUESTION MARK it can be seen that a very high proportion of the sample found no difficulty with either the term or its explanation but that the data nevertheless gave a clear indication that the absence of appropriate knowledge about such a term did not necessarily imply no knowledge. Readers such as VERNON, LISA and BRIAN had created their own unique or 'alternative' metalinguistic knowledge. Moreover, their willingness to share such knowledge with an adult suggests an absence of confusion in the mind of the reader which might be seen as a cause for concern by their teachers.

### QUOTATION MARKS [SPEECH MARKS]

As Fig. 21.2 above shows a much lower percentage of the 52 children, 34% (18), were able to produce the appropriate term for QUOTATION/SPEECH MARKS than for the more commonly occurring FULLSTOP, COMMA and QUESTION MARK symbols. This was not particularly surprising although it is worth mentioning that their reading books (brought to the interview) contained a good deal of reported speech. However, when the data were examined regarding the "What are they for?" question it became clear that many of the 34 children who had been unable to name these punctuation symbols were willing to offer an explanation of their function - there were only 8 "Don't know" responses amongst the total sample of 52 readers. 5 of these responses were from Poorer readers, 2 from Fair readers and 1 from a Better reader and all were from children who had been unable to name the symbols. This meant that a total of 44 children (85%) had offered some metalinguistic knowledge regarding the perceived function of SPEECH MARKS. A further examination of the data showed that 87% (37) of the 44 responses could be regarded as appropriate answers with the majority of the children giving quite short comments such as "to tell you when a person's speaking" or "when somebody's saying something". However, there were some qualitative differences in as much as some children offered fuller explanations. Examples are provided below.

LEE (Better reader)

"when the author's speaking you don't have them but when the person in the book's speaking you put them round the parts they speak".

MELANIE (Fair reader)

"when somebody's talking they go at the top - just before the first word and then after the last word".

SANDRA (Poorer reader)

"it's when somebody says something - you have a 66 at the top and then a 99 at the top as well".

As mentioned above 37 of the total number of 44 responses were meaningful - this suggested that 71% of the total sample of 52 readers were able to translate the textual cues offered by SPEECH MARKS during their reading. However, this left 7 responses which were not appropriate answers to the question regarding the function of this particular punctuation symbol. These came from 2 Better, 2 Fair and 3 Poorer readers and are quoted below.

#### Better readers

PAUL

"when you start asking people you put speech marks at the beginning and at the end of where you started asking them"

JASON

"they're for when you're describing someone"



Fair readers

JONATHON

"to exaggerate it - the word"

STEVEN

"when you begin a sentence"

Poorer readers

BRIAN

"you take all that in one breath"

LEE

"for when somebody's really angry"

TRACEY

"you say it louder - then you know what he's saying"

The first point which can be made about these responses, in the absence of any evidence to the contrary, (i.e. the children did not appear to be insincere) is that they cannot properly be regarded as 'meaningless' answers - presumably they were meaningful to the children who gave them. Secondly, it follows that they should therefore be regarded as metalinguistic knowledge - or at least as

more evidence of what was referred to above (re: QUESTION MARKS) as 'alternative' metalinguistic knowledge - knowledge constructed by the children. A third point which can be made is that in several of the responses [PAUL, JONATHON, LEE, TRACEY] there was the suggestion that the children were relating aspects of performance skills to the function of speech marks and thus providing responses which, far from being "random" or simply "wrong" could be seen to display a certain kind of logic. For example, as oral readers verbalising reported speech we often do "say it louder" [TRACEY] so that our listeners "know what he's saying"; we often do "exaggerate it" [JONATHON] and perhaps these notions of "loudness" and "exaggeration" offered by TRACEY and JONATHON are related in a rather oblique way to LEE's belief that speech marks come into use "when somebody's really angry". Whilst this interpretation of the children's comments is of course speculative on the part of the author it would seem, from the evidence, that to regard such comments as entirely "meaningless", or to deny that they exhibit some degree of metalinguistic knowledge would represent an insensitive interpretation of the data.

### APOSTROPHE

Questions concerning the APOSTROPHE (as used e.g. in the contracted form 'doesn't') produced a similar number of appropriate responses in terms of the children's ability to name the symbol as did the questions concerning SPEECH MARKS - 31% (16) of the sample of 52 readers were sufficiently familiar with the term APOSTROPHE to be able to produce it from their own vocabulary. However, an examination of the children's responses to the "What does it do?" question showed that only 5 children were unable to attempt some kind of explanation of the function of the symbol so that a total of 47 (90%) of the 52

children could be regarded as having some metalinguistic knowledge related to the APOSTROPHE. Before considering the 'meaningfulness' of these responses it is worth noting that each of the 5 "Don't know" answers came from children who were unable to name the symbol and that this group was comprised of 2 Better and 3 Poorer readers. This in turn meant that the vast majority of the 36 children who did not know (or could not recall) the term APOSTROPHE could nevertheless attempt some explanation of its purpose.

When the data were further examined it became apparent that none of the children's responses could be regarded as totally inappropriate - all were meaningful in terms of the question but there was a considerable variety in the qualitative nature of their responses. The minority could be classed as having restricted meaning in the sense that they were DESCRIPTIVE whereas the majority of the responses gave a clearer indication that the child understood the function of the APOSTROPHE as it is used to produce contracted forms such as 'doesn't' or 'can't'. These responses could be labelled INTERPRETIVE. Examples of DESCRIPTIVE and INTERPRETIVE responses are provided below.

The DESCRIPTIVE responses were characterised by references to making words "shorter", "splitting" them up or "missing out" letters.

#### Better readers

DARREN

"it's shortening it"

RACHEL

"it splits it up"

Fair readers

STEVEN

"it splits letters up"

AMANDA

"you put the 't' further away"

Poorer readers

CRAIG

"you miss out a letter"

MARK

"it shortens the word"

As the examples show these responses were essentially comments which correctly described the visual effects of the apostrophe in words such as 'don't' or 'doesn't' but they provided no real evidence to suggest that the children responsible understood why or when this symbol should be used. By contrast there were comments which were INTERPRETIVE in the sense that the children gave some fairly explicit

indication that they understood that the APOSTROPHE could be used to produce a single word which was a contracted form of two words. Examples of INTERPRETIVE responses are provided below.

#### Better readers

MARK

"it's in place of a letter - the 'o' in 'doesn't'"  
(i.e. does not)

TINA

"it should say 'does not' and that (points) counts  
for the 'o' that's missing"

#### Fair readers

VERNON

"it's instead of putting a whole word - you put  
'can't' for 'cannot'"

SARAH

"instead of putting 'did not' it says 'didn't' - it  
shortens the words"

### Poorer readers

MARK

"it's because you'd say 'he is' not 'he's' if it wasn't there"

SANDRA

"you can knock off 'cannot' and make it smaller so you say 'can't' - there's a space because there's no 'o'"

It was thus possible to distinguish two major categories of response which were clearly qualitatively different although both types of explanation could be considered meaningful/appropriate answers to the question concerned with the function of the APOSTROPHE as it is used in the contracted word form. A further examination of the data showed that the majority of the children's responses (66%) fell into the INTERPRETIVE category which suggested that, for the most part, the children had a rather impressive range of metalinguistic knowledge pertaining to the APOSTROPHE symbol despite the failure of 69% of the 52 children to be able to produce the term from their own vocabulary.

**3. Were there differences in the knowledge and understanding of the terms FULLSTOP, COMMA, etc. according to reading ability**

The third aspect of the investigation into the children's knowledge and understanding of the terms FULLSTOP, COMMA, QUESTION

MARK, SPEECH MARKS and APOSTROPHE was concerned with the question of whether the qualitative differences amongst their responses appeared to be related to reading ability. The data were thus re-examined in terms of whether the children were members of the Better, Fair or Poorer readers' groups.

First of all a simple frequency count of the number of children in each group who had been able to produce the appropriate terms [FULLSTOP, COMMA, etc.] from their own vocabulary was calculated. The results are presented in Table 21.3 below.

Table 21.3 The number and percentage of children in each of the three reading groups producing the terms FULLSTOP, COMMA, etc. from their own vocabulary

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
FULLSTOP	%	100.0	94.0	82.0	92.0
	n	(19)	(15)	(14)	(48)
COMMA	%	95.0	100.0	82.0	92.0
	n	(18)	(16)	(14)	(48)
QUESTION MARK	%	95.0	100.0	88.0	92.0
	n	(18)	(16)	(15)	(48)
SPEECH MARKS	%	42.0	37.0	23.0	35.0
	n	(8)	(6)	(4)	(18)
APOSTROPHE	%	32.0	31.0	29.0	31.0
	n	(6)	(5)	(5)	(16)

As the table suggests the differences in the numbers of Better, Fair and Poorer readers able to produce each term were quite small although proportionately fewer of the Poorer readers could produce the appropriate name for the punctuation symbol in each case. Although no statistical analysis was possible this difference was most pronounced as regards 'SPEECH MARKS' where only 23% of the Poorer readers as

opposed to 37% and 42% of the Fair and Better group children respectively responded with the correct term. The overall picture emerging from the data was thus that the children with the lowest reading ability were the least likely to possess a technical vocabulary as it related to punctuation symbols. However, the children's responses had provided good evidence to show that a meaningful explanation of the function of the five symbols in question did not necessarily depend upon a reader actually 'knowing' (or being able to say) the actual term and it was this aspect of the data which was subsequently scrutinised in order to see whether or not Poorer readers not only 'knew' less of the terms but could also give fewer meaningful explanations of them. The results of this analysis are provided in Tables 21.4 to 21.9 below where the responses are categorised as 'APPROPRIATE', 'INAPPROPRIATE' or 'DON'T KNOW' for each of the Better, Fair and Poorer ability groups.

Table 21.4 FULLSTOP: Appropriate, Inappropriate and 'Don't know' responses by the Better, Fair and Poorer readers

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
<u>FULLSTOP responses</u>					
Appropriate	% n	100.0 (19)	100.0 (16)	100.0 (17)	100.0 (52)
Inappropriate	% n	0	0	0	0
Don't know	% n	0	0	0	0

As Table 21.4 shows there was a 100.0% response rate to the question relating to the function of the FULLSTOP and every response was considered to be appropriate. There were thus no differences between the children in terms of reading ability and the ability to give a



meaningful explanation of this term. Moreover, no clearly observable qualitative differences existed between the children's responses.

Table 21.5 COMMA: Appropriate, Inappropriate and 'Don't know' responses by the Better, Fair and Poorer readers

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
<u>COMMA responses</u>					
Appropriate	%	79.0	100.0	94.0	90.0
	n	(15)	(16)	(16)	(47)
Inappropriate	%	0	0	0	0
	n				
Don't know	%	21.0	0	6.0	10.0
	n	(4)	(0)	(1)	(5)

As indicated by Table 21.5 90% of the total sample responded appropriately to the question concerned with the function of the COMMA and the remaining 10% of the children gave a "Don't know" response - there were no responses judged as 'inappropriate'. However, it was somewhat surprising to discover that 4 of these 5 "Don't know" responses were given by members of the Better readers' group. No reliable explanation could be offered for this finding, but leaving the "Don't know" responses aside, the overall picture which emerged from the data in Table 21.5 was that no 'inappropriate' responses had occurred. Thus the ability to explain the function of the COMMA did not appear to be related to reading ability differences - readers from each ability group, when they did respond with a comment, were equally likely to give appropriate explanations.

Table 21.6 QUESTION MARK: 'Appropriate', 'Inappropriate' and 'Don't know' responses by the Better, Fair and Poorer readers

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
<u>QUESTION MARK responses</u>					
Appropriate	%	100.0	94.0	88.0	94.0
	n	(19)	(15)	(15)	(49)
Inappropriate	%	0	6.0	12.0	6.0
	n	(0)	(1)	(2)	(3)
Don't know	%	0	0	0	0
	n				

94% of the responses to the question concerned with the function of the QUESTION MARK were considered to be 'appropriate' as indicated by Table 21.6 whilst 6% of the children's comments were 'inappropriate'. There were no "Don't know" responses. As the table of results shows the 3 inappropriate responses involved 1 Fair reader and 2 readers who were members of the Poorer group. Since the number of children giving this type of response was so small it would be unrealistic to argue that knowledge of the QUESTION MARK symbol was related to reading ability. However, the results did suggest that the Better readers were the least likely to offer responses which indicated a confusion of ideas about when and where the QUESTION MARK should be used and the kinds of textual cues it provided for the reader.

Table 21.7 SPEECH MARKS: 'Appropriate', 'Inappropriate' and 'Don't know' responses by the Better, Fair and Poorer readers

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
<u>SPEECH MARKS responses</u>					
Appropriate	%	84.0	75.0	53.0	71.0
	n	(16)	(12)	(9)	(37)
Inappropriate	%	10.0	12.0	18.0	14.0
	n	(2)	(2)	(3)	(7)
Don't know	%	6.0	12.0	29.0	15.0
	n	(1)	(2)	(5)	(8)

As Table 21.7 indicates 71% of the 52 children gave 'appropriate' responses to the question concerned with the function of SPEECH MARKS 14% gave 'inappropriate' responses and 15% answered "Don't know". Children from each of the three reading ability groups gave 'inappropriate' responses but, although the total number of children involved was small, (7) the findings did suggest a tendency for the Poorer group children to show the most confusion regarding the purpose of SPEECH MARKS whilst the Better group children were the least likely to give 'inappropriate' responses. "Don't know" responses also occurred in each of the three ability groups but whilst only 1 of the 19 children in the Better group gave this type of response, 2 of the 16 Fair readers and 5 of the 17 Poorer readers responded with "Don't know" answers. This finding gave a clearer indication that metalinguistic knowledge about this particular feature of the text contained in the children's reading books might be related to reading ability. The children with the lowest reading ability were the least aware of, or, judging by their 'inappropriate' responses, the most likely to be confused by, the textual cues provided by SPEECH MARK symbols.

Table 21.8 APOSTROPHE: ‘Appropriate’, ‘Inappropriate’ and ‘Don’t know’ responses by the Better, Fair and Poorer readers

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
<u>APOSTROPHE responses</u>					
Appropriate	%	90.0	100.0	82.0	90.0
	n	(17)	(16)	(14)	(47)
Inappropriate	%	0	0	0	0
	n				
Don’t know	%	10.0	0	14.0	10.0
	n	(2)	(0)	(3)	(5)

As Table 21.8 indicates 90% of the readers gave ‘appropriate’ responses to the question concerned with the function of the APOSTROPHE but there were no actual ‘inappropriate’ responses since the remaining 10% of the children gave "Don’t know" answers. The "Don’t know" answers involved just 5 of the 52 readers: 2 Better group and 3 Poorer group children and when the data are viewed in this quantitative fashion there appears to be little difference between the ability groups apart from the finding that the Fair group readers did best overall. However, as explained above, the appropriate APOSTROPHE responses were further categorised as ‘DESCRIPTIVE’ and ‘INTERPRETIVE’ and when this aspect of the data was considered according to the three reading ability groups it became clear that differences did exist. The relevant data are provided in Table 21.9 below.

Table 21.9 The QUALITATIVE nature of 'appropriate' APOSTROPHE responses from the Better, Fair and Poorer readers

		Better (n19)	Fair (n16)	Poorer (n17)	All (n52)
DESCRIPTIVE responses	%	18.0	37.0	50.0	34.0
	n	(3)	(6)	(7)	16
INTERPRETIVE responses	%	82.0	63.0	50.0	66.0
	n	(14)	(10)	(7)	31
Total 'appropriate' responses	%	89.0	100.0	82.0	90.0
	n	17	16	14	47

As the Table indicates 82% of the Better readers' 'appropriate' responses to the APOSTROPHE question could be categorised as INTERPRETIVE as opposed to 63% and 50% of the responses of the Fair and Poorer groups respectively. Put simply this finding suggested the higher the reading ability the better the children's ability to explain the 'whys' and 'wherefores' of the APOSTROPHE as it is used to provide contracted forms such as 'Don't' and 'Doesn't'. Examples of the DESCRIPTIVE and INTERPRETIVE responses were provided above and need not be reproduced here except to point out that the children with the lowest reading ability were more likely to restrict their explanations to such comments as "you miss out a letter" or "it shortens the word" whereas Better group readers, for the most part, gave much more explicit explanations such as "it's in place of a letter - the 'o' in doesn't". Even so it is worth emphasising here that this general finding should not be interpreted in such a way as to give the impression that most of the Fair readers and all of the Poorer readers possessed only superficial knowledge - as Table 21.9 shows 10 children from the Fair group and 7 from the Poorer group were able to give responses which, in qualitative terms, were of equal standing with the explanations offered by the children in the highest of the three reading ability groups.

### BASIC VOCABULARY and TECHNICAL TERMS: a summary of the findings

The preceding sections of this chapter have reported the findings of the investigation of the 52 remedial readers' knowledge and ability to explain the basic terms WORD and LETTER and their notions about the names and functions of 5 punctuation symbols: FULLSTOP, COMMA, QUESTION MARK, SPEECH MARKS and APOSTROPHE. Generally the investigation indicated that the children possessed (and were able to verbalise) a good deal of metalinguistic knowledge which would be appropriate in helping them to interpret these terms if they occurred orally during the course of reading instruction. Additionally, since the investigation relating to punctuation symbols involved the use of the children's reading books, the findings could be related to the readers' ability to interpret the textual cues provided by FULLSTOPS, COMMAS, QUESTION MARKS etc. when they occurred in print. The quality of the children's responses varied in this respect but again, speaking in general terms, the comments indicated that the majority of readers were well aware that punctuation symbols, not just words, carried information relating to the 'sense' of text. However, there were indications that some of the children possessed inappropriate or 'alternative' metalinguistic knowledge which might be likely to hinder rather than help their comprehension. These 'novel' explanations and comments were, by and large, more likely to be offered by children with the lowest reading ability (as measured by the Schonell test) thus suggesting a relationship between poor decoding skills and the tendency to exhibit confusion over basic terms such as WORD or LETTER, or regarding the purpose of commonly occurring punctuation symbols such as QUESTION MARKS or SPEECH MARKS. Nevertheless the differences which could be distinguished between the Better, Fair and Poorer readers were quite small as the following summary of the main findings

of this section of the structured interviews indicates.

- \* WORDS and LETTERS: Although the majority of children produced appropriate answers to the question "What are words made of?" there was some evidence that the term LETTERS was confused with other 'technical terms' such as PRONOUN, VOWEL or NOUN. 7 of the 52 children exhibited this arbitrary usage of technical vocabulary and of these 2 were Fair readers and 5 were members of the Poorer readers' group.
- \* PUNCTUATION symbols and VOCABULARY: Almost all the children were able to produce the terms FULLSTOP, COMMA and QUESTION MARK from their own vocabulary in response to the corresponding punctuation symbol, and approximately a third knew the appropriate terms for SPEECH MARKS and APOSTROPHE. There was some evidence to suggest that a knowledge of the appropriate terms was related to reading ability since fewer of the Poorer readers were able to produce each term - this difference was most pronounced in relation to the SPEECH MARKS symbol. However, there was no evidence that any of the readers were likely to confuse one term with another.
- \* PUNCTUATION symbols and MEANING: The findings gave a very clear indication that the inability to name a punctuation symbol did not necessarily indicate that the symbol's function was not understood, i.e. although only about a third of the sample could actually apply the correct term to the SPEECH MARKS and APOSTROPHE symbols approximately

90% of the children were able to give an appropriate explanation of their function in text.

- \* QUALITATIVE differences between responses: Although qualitative differences between the explanations of the various terms could be distinguished there was little evidence to suggest that these were related to reading ability apart from the exception of the children's attempts to explain the function of the APOSTROPHE. The responses to this particular term could be categorised as DESCRIPTIVE or INTERPRETIVE and the results showed the Better readers gave the highest proportion of INTERPRETIVE responses and the Poorer readers the lowest.
- \* NOVEL explanations and 'alternative' metalinguistic knowledge: There were some instances of inappropriate explanations which showed that the children concerned had 'constructed' unique functions for the QUESTION MARK and SPEECH MARKS symbols. Only 10 such explanations occurred but since 5 of these were offered by Poorer readers there was some evidence to suggest that 'novel' explanations and low reading ability were related.



## CHAPTER 22

### RESULTS: THE CHILDREN'S OPINIONS ABOUT THE PURPOSES OF READING

The final section of the structured interview was designed to gain some insight into the children's perceptions of the purposes of reading and it was hoped that their responses would also reveal something of their attitude towards it i.e. did they see reading as a purely functional pursuit? How was it viewed as relevant or useful in their day-to-day lives? Was there any mention of reading for its enjoyment value? Did any differences emerge with respect to reading ability?

As explained in Chapter 4 the questions posed during the structured interview were not always asked in the same order and sometimes they were framed slightly differently in order to follow-up a comment already made by a child. However, the typical wording of the author in the case of the question concerned with the purpose of reading as follows:

"Now - we've talked a lot about reading and about reading books - can you think of some of the reasons why people/you want to read?"

#### CATEGORIES OF RESPONSE

An examination of the children's responses revealed that their comments could be classified into 6 categories. These are presented diagrammatically in Fig. 22.1 (The order of presentation represents the frequency with which the perceived purposes of reading were

Fig. 22.1 The children's perceptions of the PURPOSES of  
reading

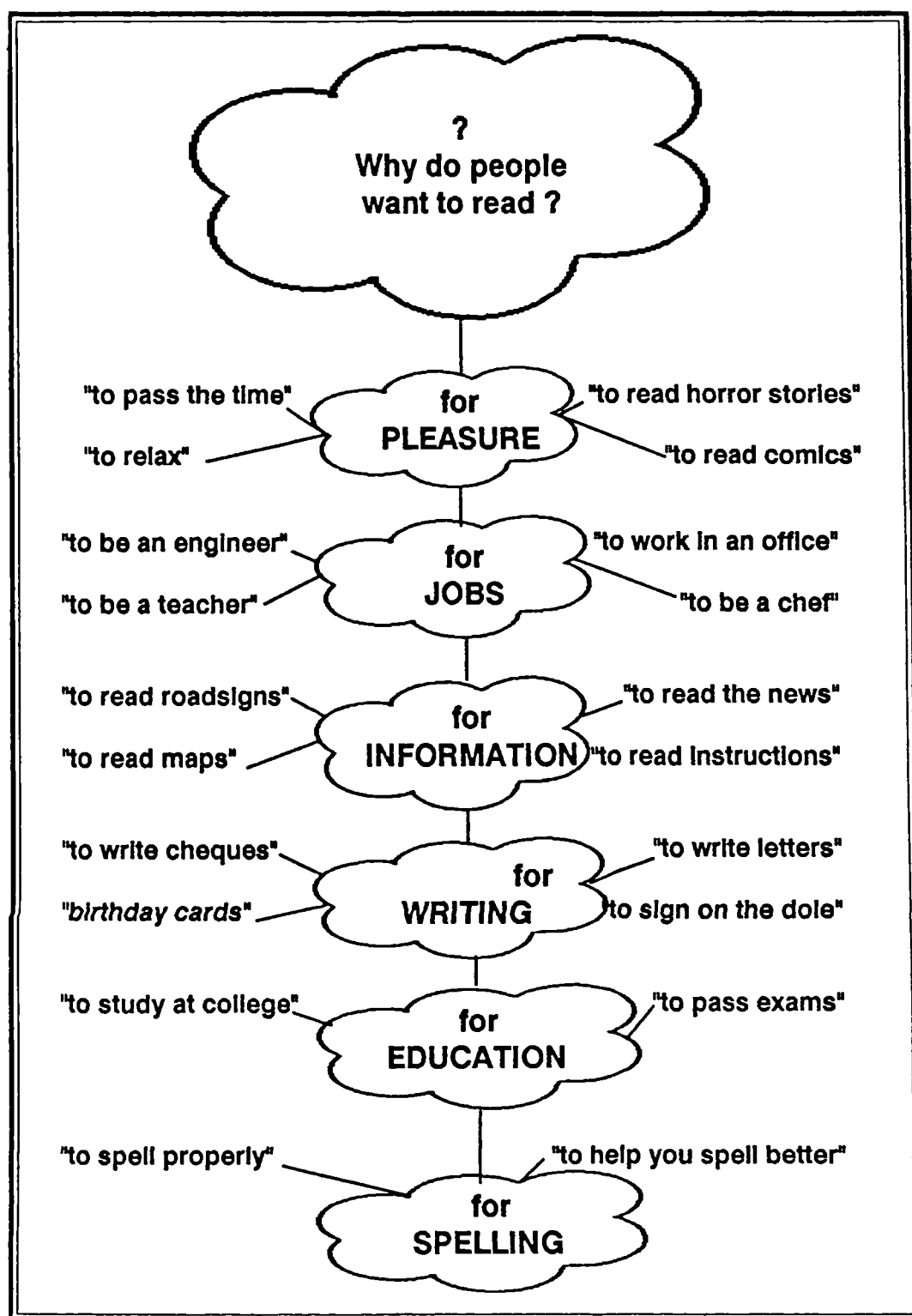
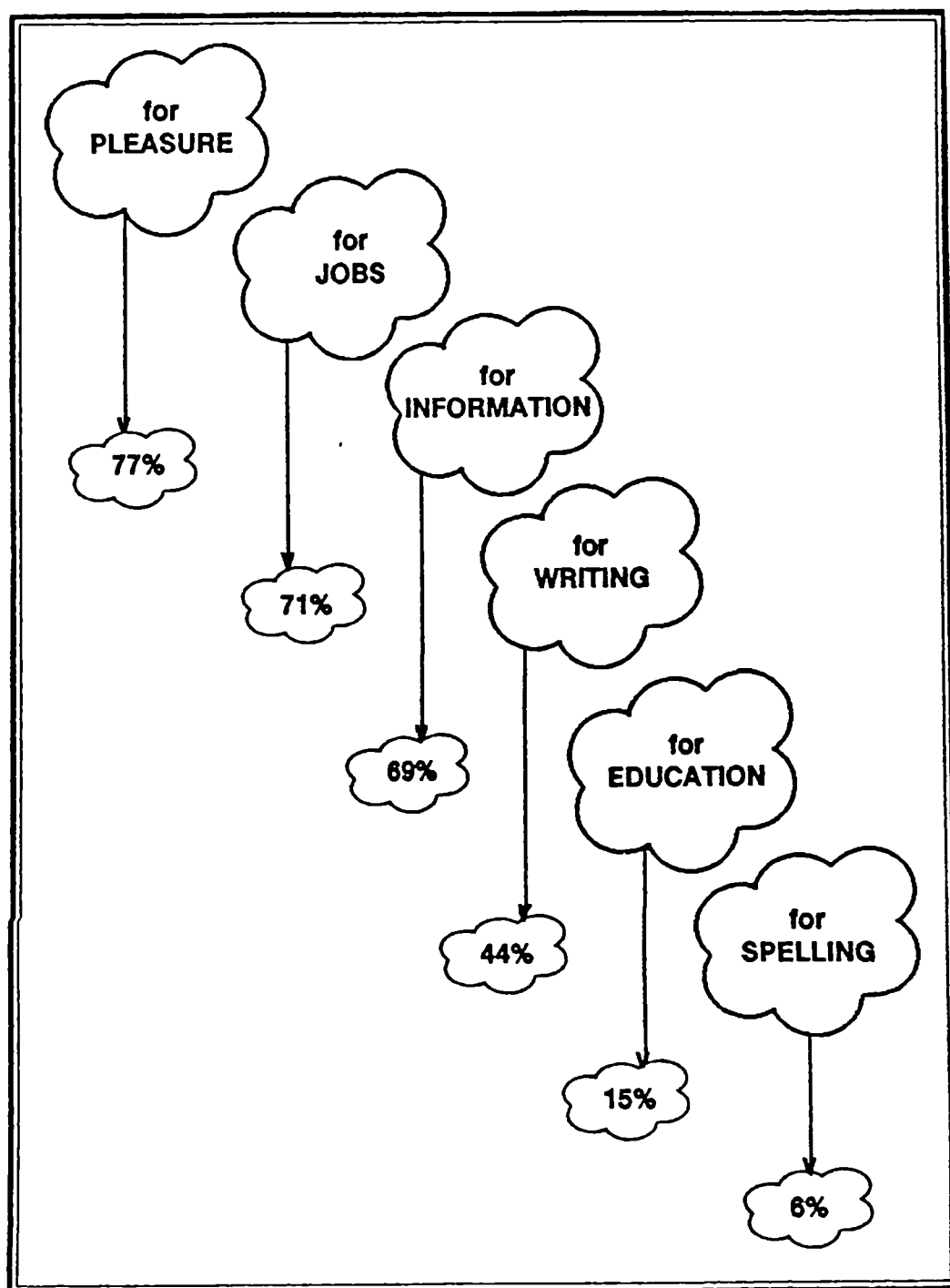


Fig. 22.2 The percentages of children mentioning each of the perceived PURPOSES of reading



mentioned). It was interesting to note that every child responded positively to the question about the purposes of reading - most children gave at least 3 comments - and there were no negative responses (i.e. 'it's boring'/'waste of time' etc. etc.).

Fig. 22.2 shows the relative frequency of the responses falling into each category and the following sections of the chapter give more detailed examples of the children's comments according to their reading ability groups.

As Fig. 22.2 shows, although the highest percentage of children mentioned reading "for PLEASURE" there was very little difference between the frequency with which this response occurred and the frequency of the "for JOBS", and "for INFORMATION" responses. It was apparent then, from this finding, that whilst the 'functional' aspects of reading were viewed as having a high priority by the majority of children, the enjoyment aspect was seen to be a very significant purpose of reading - the most significant if the frequency with which it was mentioned is regarded as a barometer of its importance. Reading "for WRITING" also appeared to be seen as having a good deal of importance since it was mentioned by just less than half of the 52 children. Taken together then, these 4 PURPOSES of reading: for PLEASURE, for JOBS, for INFORMATION and for WRITING characterised the readers' perceptions of why people should want to read and comments which fell into these 4 categories accounted for 136 (92%) of the total number of 147 responses. As Fig. 22.2 indicates the remaining 2 categories of response: for EDUCATION and for SPELLING were suggested by the comments of a much smaller

percentage of readers. However, since the individual children concerned obviously felt that these aspects of the PURPOSES of reading were important enough to deserve a mention, their comments will be described below.

The 6 categories of response are now considered in some detail and the children's comments described with the aim of distinguishing whether or not any differences emerged amongst reader's perceptions of the PURPOSE of reading according to their reading ability. Table 22.1 below summarises the findings regarding reading ability groups and the frequency of responses in each of the 6 categories.

Table 22.1 The purposes of reading: the categorisation of the responses of the children from each of the three reading ability groups.

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
for PLEASURE	%	79.0	81.0	70.0	77.0
	n	15	13	12	40
for JOBS	%	63.0	69.0	82.0	71.0
	n	12	11	14	37
for INFORMATION	%	47.0	81.0	82.0	69.0
	n	9	13	14	36
for WRITING	%	58.0	50.0	23.0	44.0
	n	11	8	4	23
for EDUCATION	%	10.0	19.0	18.0	15.0
	n	2	3	3	8
for SPELLING	%	5.0	0.0	12.0	6.0
	n	1	0	2	3

Chi-square calculations were possible on the data from 3 of the 5 categories of response: JOBS, INFORMATION and WRITING. These showed that the only statistically significant variation in the frequency of responses from the Better, Fair and Poorer readers was

in respect of the for INFORMATION category. However, the detailed findings of the statistical analysis of the data in these 3 categories are more conveniently reported below where each category of response receives individual attention.

### Reading "for PLEASURE"

As Fig. 22.1 indicates 77% (40) of the 52 children mentioned reading for PLEASURE in response to the question "Why do you think people want to read?" A closer examination of the data showed that whilst more or less equal proportions of the Better and Fair groups had made this kind of comment, slightly fewer of the Poorer group children had done so (70% of the Poorer group as opposed to 79% and 81% of the Better and Fair groups respectively). Typical examples of the children's comments are provided below.

#### Better readers

"for enjoyment - takes your mind off things"

"reading good stories"

"to relax - bedtime reading"

#### Fair readers

"horror books for pleasure"

"for something to do - for pleasure"

"for enjoyment"

### Poorer readers

"comics - for pleasure"

"for enjoyment - to make me sleep"

"adventure stories - for pleasure"

As the examples show, the children's comments were very similar to each other with references to 'comics' and 'good stories' being common - the indication was that the majority of the 52 children - despite their varying degrees of low ability - saw reading as a pleasurable pursuit and one not just confined to the business of 'learning' in school.

However, it was interesting to speculate whether or not the 12 children who had made no reference to reading for PLEASURE were readers with particularly low reading ability and the data were examined in order to investigate this possibility. The real age/reading age discrepancy scores of the children gave no particular support for this view. (Although 4 of the Better readers who made no reference to PLEASURE did have a slightly higher mean reading discrepancy score than the 15 children in their group who had responded with a PLEASURE comment). The data are presented in Table 22.2 below.

Table 22.2 Comparison of the mean real age/reading age discrepancy scores of children mentioning and not mentioning PLEASURE as a purpose of reading.

		Better (n 19)	Fair (n 16)	Poorer (n 17)	All (n 52)
no 'PLEASURE' comments (n 12)	$\bar{x}$	-18.0	-20.0	-40.2	-29.5
	s.d.	3.8	5.5	6.8	11.3
'PLEASURE' comments (n 40)	$\bar{x}$	-15.6	-30.6	-43.6	-28.9
	s.d.	4.8	4.4	8.4	13.0

Generally speaking then a large proportion (77%) of the 52 remedial readers saw reading for PLEASURE as one of the purposes of reading and the responses did not vary a great deal according to reading ability groups. Furthermore, there was no evidence to suggest that the 12 children who did not mention PLEASURE as a purpose of reading were children with the lowest reading ability. Putting this finding simply, it seemed that whatever difficulties might be encountered by the children as a result of their relatively poor reading ability, they maintained a positive rather than a negative (or purely functional) attitude towards it - reading for PLEASURE figured largely in their perceptions about the purpose of reading.

### Reading "for JOBS"

The second most frequently occurring type of responses to the question "Why do people want to read?" were those which referred to the connection between the ability to read and the ability to get/perform a JOB. Seventy-one percent (37) of the 52 children made this type of comment. When the data were examined more closely it



became evident that a higher percentage of the Poorer readers had mentioned the reading/employment connection: 82% of this group as opposed to 63% and 69% of the Better and Fair readers respectively. (See Table 22.1) However, a Chi-square calculation revealed no statistically significant variation in the responses of the children from the Better, Fair and Poorer ability groups ( $\chi^2 = 1.67$ ; d.f. 2; N.S.).

Typical comments were "for work" or "for your job" but several children mentioned specific occupations and the prospect of "signing on the dole" seemed uppermost in the mind of at least one reader! Examples of the comments from members of each ability group are provided below.

#### Better readers

"to sign on the dole"

"to be a teacher or work in an office"

"for your job - an engineer"

#### Fair readers

"for a job - like a chef"

"for work - to read about farming"

"to get a job"

### Poorer readers

"for the Police Force - for jobs"

"for your job at the job centre"

"at the job centre - to read the cards"

The comments of the children who expanded on the typical "for work" "for jobs" comments were thus very similar, and getting a job - or actually performing a job - was obviously seen to be closely related to the ability to read. It was perhaps rather surprising that a higher percentage of the Poorer readers than of the Fair or Better readers' group made the reading/ employment connection but speculations as to the reason for this would be inappropriate since this finding was not further investigated during the interviews reported here.

### **Reading "for INFORMATION"**

Sixty-nine percent (36) of the 52 readers mentioned INFORMATION-seeking of one kind or another when asked the question "Why do people want to read?" and this was the third most frequently occurring category of response during the interviews. Table 22.3 below gives an overview of the nature of the children's comments.

Table 22.3 An overview of the children's comments relating to reading "for INFORMATION"

The various types of INFORMATION mentioned by the children:-

GENERAL

"instructions"  
 "knowledge about the world"  
 "leaflets and booklets"  
 "notice boards"  
 "signs"  
 "to find out things"

SPECIFIC

"bills and things"  
 "birthday cards"  
 "cast of a film"  
 "children's reports"  
 "driving licence forms"  
 "maps"  
 "newspapers"  
 "road signs"  
 "shopping"  
 "telephone books"  
 "trespass signs"  
 "words of a foreign film"

As Table 22.3 suggests the children's views about the kinds of information which could be gained through reading were extremely wide-ranging. However, it was interesting to note that a considerably lower percentage of the Better readers gave "for INFORMATION" responses: 47% as opposed to 81% and 82% of the Fair and

Poorer readers respectively (see Table 22.1 above). As mentioned at the beginning of this chapter, it was possible to calculate Chi-square with respect to this data. This revealed a statistically significant variation in the frequency of this response across the Better, Fair and Poorer reading ability groups ( $\chi^2 = 6.72$ ; d.f.2;  $p < 0.05$ ). Thus, as Table 22.1 shows, the Better readers were the least likely to mention reading for INFORMATION, whilst approximately equal numbers of responses in this category came from the Fair and Poorer readers. This finding, coupled with the earlier reported finding that the Better readers were the least likely to mention reading for JOBS but the most likely to mention reading for PLEASURE suggests perhaps that this group placed less emphasis on what might be called the 'functional' aspects of reading. One interpretation of these data might be that reading for PLEASURE is viewed as a more important aspect of reading when the reading process itself becomes more 'pleasurable', i.e. when reading ability is 'Better' rather than 'Fair' or 'Poorer' and when reading thus becomes less of a struggle. However, it must also be acknowledged that 70% of the Poorer readers in the sample did, in fact, mention reading for PLEASURE so the speculation that there may be something of an inverse relationship between reading ability and the view that reading is a pleasurable activity must be very tentative.

### Reading "for WRITING"

Forty-four percent (23) of the 52 children gave responses which suggested that people needed to read in order to help or improve their ability to write. As Fig. 22.2 shows this kind of response was the fourth most frequently occurring answer to the question "Why

do people want to read?"

An examination of the data showed that the Better readers were the most likely to have mentioned the connection between reading and WRITING and the Poorer readers the least likely to have given this kind of response. The percentage figures for the Better, Fair and Poorer readers were 58%, 50% and 23% respectively. As mentioned above, it was possible to calculate Chi-square for these data (raw scores) but this indicated no statistically significant variation in the proportions of children from each of the 3 groups who had mentioned WRITING ( $\chi^2 = 4.60$ ; d.f.2; N.S.). The finding that the Poorer readers were the least likely to mention the reading/ WRITING connection must, therefore, be interpreted with caution.

An examination of the children's comments showed that the connection between reading and writing was often perceived as having to do with "writing letters" "filling in forms" or "signing cheques". However, some other aspects of the reading-writing relationship were mentioned. Examples of these are provided below.

#### Better reader

"to write a speech"

#### Fair reader

"if they don't read they wouldn't be able to write"

### Poorer reader

"to write in diaries"

Generally it could be seen from the children's responses that the reading-writing connection was perceived in what might be termed a functional 'adult-orientated' way - signing cheques, filling in forms etc. - and that the Better readers were the most likely to volunteer this perception. It was interesting to note that none of the 23 children who mentioned the reading-writing connection made any reference to writing connected with school work.

### Reading for "EDUCATION " and for "SPELLING"

As Fig. 22.1 shows, two further categories of response occurred in answer to the question "Why do people want to read?" and these could be termed "for EDUCATION" (or "learning purposes") and "for SPELLING". However, since these two types of response were the least frequent - taken together they involved only 11 (21%) of the 52 children - they can be discussed very briefly.

Responses which pointed to the EDUCATION (learning) connection were volunteered by 8 children and an examination of the data showed that these were just as likely to be made by Poorer readers as by the children in the Better and Fair groups (see Table 22.1). The responses were characterised by references to "exams" or "study" (as indicated by Fig. 22.1 above).

References to SPELLING - the least frequently occurring category of response - were made by just 3 (6%) of the 52 children. One Better reader and 2 Poorer readers made comments which suggested that one purpose of reading was to improve spelling.

#### The PURPOSES of reading: summarising the findings

Some attempt can now be made to provide answers to the questions posed at the beginning of this section : Was reading perceived as a purely functional pursuit? How was it perceived as relevant in the children's day-to-day lives? Was there any mention of reading for its enjoyment value? Did any differences emerge in the children's responses with respect to their reading ability?

#### **Reading: Functional? Relevant? Pleasurable?**

Summarising the findings in a sentence, it can be said that the children's responses suggested they perceived reading as both PLEASURABLE and FUNCTIONAL (and therefore as relevant) to their day-to-day lives. Indeed the most heartening, overall impression suggested by the children's responses was that they viewed reading in a very positive light. In fact, reading for PLEASURE purposes was the most frequently occurring type of response. Nevertheless, the children also had a very clear idea of the functional aspects of reading - references to JOBS and INFORMATION figuring very prominently in their comments. That 40 of the 52 children - children whose reading ability was low by any standards - were concerned to point out the pleasurable aspects of reading, was somewhat surprising as was the finding that no negative responses occurred in answer to

the question "Why do people want to read?"

### Differences in perceptions according to READING ABILITY?

Before drawing some general conclusions regarding whether or not any differences in the nature and frequency of the children's comments could be identified with reference to their reading ability a cautionary note must be sounded. This relates to the inferences which may be drawn from frequency data obtained from questions designed to promote free responses during a structured interview, particularly when attempts are made to compare sub-sections of the total sample of respondents - in this case the Better, Fair and Poorer readers.

Whilst it was interesting and informative to attempt to piece together the children's responses to the question "Why do people want to read?" in order to form a picture of their perceptions of the purposes of reading, it has to be acknowledged that the data obtained was essentially of a qualitative rather than quantitative nature. This meant that whilst the responses of individual children could be categorised (post hoc) and their frequencies calculated, it had to be remembered that a higher frequency of a particular kind of response did not necessarily indicate that it should be ranked higher in terms of the importance given to it by a particular individual. To put this point more simply, it must be acknowledged that the children were not asked "What are the most important reasons why people want to read?" nor were they asked to rank order their responses once these had been given. With hindsight an additional question such as "Which of these things do you think is most important?" (i.e. reading for PLEASURE, JOBS. etc) would have been most helpful in



providing a clearer picture of the children's perceptions about the purposes of reading and would have enabled more valid comparisons to be made in relation to the responses of Better, Fair and Poorer readers. Nevertheless, some impressions of the differences and similarities existing in the frequencies of the children's comments can be offered.

The overall picture of the children's perceptions of the reasons why "people want to read" is provided by Fig.22.1 above where the suggestion is that the purposes of reading are perceived (and might be ordered) as follows: PLEASURE; JOBS; INFORMATION; WRITING; EDUCATION and SPELLING. The main deviations from this overall pattern of response in respect of the children's reading ability grouping can be summarised as follows:

- \* POORER readers' most frequently occurring comments related to reading for JOBS and INFORMATION rather than to reading for PLEASURE.
- \* BETTER readers made more references to WRITING than to INFORMATION. This therefore became their third (not fourth) highest category of response. The percentage of children mentioning INFORMATION in this group was much lower than in the two other ability groups ( $p < 0.05$ ).
- \* FAIR readers' responses did not include any references to reading for SPELLING purposes.

Apart from these slight deviations from the overall picture of the children's perceptions of the purposes of reading, the responses of the Better, Fair and Poorer group children were very similar in nature and in frequency. However, one tentative interpretation of the data which can be put forward is that the Poorer readers were the least likely to mention reading for PLEASURE but the most likely to mention reading for JOBS and for INFORMATION because they saw reading as more of a necessity than a pleasure. However, since the differences involved were very small, all that can really be deduced from the data is that there appeared to be a slight tendency for the children with the lowest reading ability to place more emphasis on the 'functional' rather than the 'recreational' aspects of reading.

## CHAPTER 23

METALINGUISTIC KNOWLEDGE AND PERCEPTIONS OF READING:  
A SUMMARY AND DISCUSSION OF THE FINDINGS

This chapter presents a summary and discussion of the main findings and themes that emerged from the analysis of the children's responses during the 'metalinguistic' interviews. Whilst there is a paucity of research literature which has focussed on what Secondary school and remedial readers 'know', or more precisely can 'say', about themselves as readers and about reading in general, the findings reported in the five preceding chapters will be related to the information which is available.

However, before proceeding there is a very important issue which must be raised. This relates to the need to bear in mind the distinction between the knowledge a child may possess, and what he or she may be able to say about that knowledge. Whilst it is interesting and informative to investigate readers' concepts about reading, and about themselves as readers, by recording and examining their verbal responses, we should be careful not to fall into the trap of believing that we have been able to discover what they know. For example, it would surely be impossible for even the most verbally accomplished adult readers to say all that they knew about reading. As researchers and teachers, if we could say everything we know about how we read, then instruction procedures aimed at young readers might (but only might) be more successful. The fact is that as language users to say all that we know about reading is beyond the capacity of our oral expression - our knowledge is a gestalt of concepts which we cannot take apart cognitively let alone reconstruct verbally. If this holds true for the articulate adult how much more significant

must it be when the readers in question are children? Thus children's understanding of concepts about reading cannot be assessed merely by investigating their ability to verbalise the concepts.

It was precisely for this reason that an analysis of the children's oral reading errors formed a part of the present author's study. In the following chapter some attempt will be made to relate the readers' verbalised metalinguistic knowledge to their oral reading errors - in other words to relate what they 'knew and could say' to what they 'knew and could do'. Until these two complementary aspects of 'knowing' are considered together there is an inevitable danger of underestimating or overestimating the children's understanding of the concepts involved in reading.

Having raised and debated this issue of the distinction between what may be known and what may be said, the present chapter proceeds with a summary and discussion of the knowledge which was expressed by the children during the course of the structured interviews.

*The first major point which must be made concerns not the evidence as such, but rather the general 'ambience' of the interviews - the 'air surrounding' the 52 half-hour sessions. This provided not data but an impression - an 'impression' which must be recorded (despite the violation of the rule of objectivity) since it seemed to the author to constitute a most striking feature which lay at the heart of this particular part of the study. This was the impression that the 52 remedial readers, far from exuding an air of 'failure' or 'despondency', brought to the interviews a range of perceptions, suggestions, opinions and explanations which was as refreshing as it was unexpected. It is a common assumption, particularly perhaps by*

those of us who fared well in the academic stakes in school, that less able children - 'remedial' children - suffer from a sense of failure and a lack of confidence. 'It must be remembered', writes Roberts (1969) 'that these children have failed and that they know they have failed'. This may be so, but not, surely, if remembering it prevents us from perceiving that there may be evidence to the contrary. The truth is that we know little about how children regard themselves as readers for there is little evidence available that is concerned with their judgements of their own reading ability. Even so, the evidence that does exist does not provide unwavering support for the view that all children who experience reading difficulties are additionally burdened by the belief that they have 'failed'. Wooster (1970) and Willig (1980) have both provided evidence to the contrary. Wooster investigated the concepts of 'self as reader' in a sample of first and third year Junior school boys and found that the younger less able ones tended not to put themselves into the 'poor' reader category. Similarly Willig, in a more recent study of 10 year olds, showed that average and below average readers had a tendency to overestimate their reading ability. This may or may not be a good thing - perhaps children could benefit from a realistic perception of their own low ability - but however this may be there is certainly enough evidence to suggest that the self-esteem of less able readers is not necessarily deflated along with their reading scores.

The study reported here did not address the question of the readers' self-esteem but the opening sections of the interview did investigate the children's perceptions of their own reading ability and the frames of reference which they used in describing themselves as 'good', 'poor' or 'in between' readers. The main finding was that despite an average discrepancy of -30 months between the readers'

chronological ages and reading ages, almost half the sample gave positive answers to the question, " Are you a good reader now?" Moreover, there was no real evidence to suggest that the Better, Fair and Poorer readers within the sample were matching their self-judgements to their actual reading ability as measured by the Schonell GWR test. When the readers' frames of reference for 'good', and 'poor' reading ability were investigated, it was apparent that the majority of children saw 'good' readers as those who could (a) decode difficult words and (b) give a good (fluent) oral reading performance. Other frames of reference were in operation but these were much less frequently mentioned and it was interesting to note that of the 52 children only 4 mentioned explicitly the notion of a 'good' reader understanding what was read. These children were all members of the Better readers' group.

Summing up these findings it seemed evident that the children generally equated 'good' reading with the ability to solve what might be called orthographic verbal translation problems, and as having little to do with constructing meaning from the text. Whatever the teaching strategies used in the classroom it seemed likely that the children, for the most part at least, had fastened on to those *strategies which they believed held the key to successful reading: strategies concerned with 'decoding' and with 'performance skills'.* In view of the continuing low ability of the 52 readers, it could be argued that these strategies were more likely to be a recipe for failure than for success. It should be acknowledged here, however, that the actual strategies emphasised by the children's teachers were not investigated by the author and it is possible that great emphasis was placed on reading for meaning. However, this is not really the point at issue - if the children believed that 'decoding' and

'performing' were the key components of successful reading then the teachers' possible emphasis on alternative strategies had, in a sense, made little impression.

It proved impossible to trace any existing research which had looked specifically at the question of how Secondary school children with reading difficulties view successful or unsuccessful reading ability. Most researchers have concentrated on comparing the different perceptions of younger versus older children. For example Myers and Paris (1978) asked a sample of 20 7/8 year olds and 20 11/12 year olds the question "What makes someone a good reader?" They reported that 70% of the older children but only 40% of the younger children, suggested that 'special skills' (concerned with vocabulary, pronunciation and practice) were necessary components of good reading. Summarising the children's responses to this and other 'metacognitive knowledge' questions the authors concluded that younger children were unaware of many important parameters of reading and, in particular, were unaware of special strategies required for understanding. However, the Myers and Paris samples were 'selected without regard for reading ability' so a comparison of their findings *with respect to their younger readers and the findings of the present author's study* cannot really be made even in terms of the reading ages of the two samples.

One study which does afford something of a comparison is that conducted by Martin (1986) although it involved only one reader aged 9 years. In 'Leslie: a reading failure talks about failing' Martin reports his conversation with a boy who was asked to look retrospectively at the reasons for his low reading ability throughout Primary school. It is clear from the transcript that Leslie had

focussed his efforts on those teaching strategies concerned with decoding skills and had viewed the ability to "get this alphabet" as one of the prime components of successful reading. It is also clear that Leslie (three years later) was still somewhat perplexed as to why - having eventually mastered his ABC - he still 'couldn't do it'. It is in the sense that Leslie believed "...if I could get this alphabet I could read all the words" that his comments show a similarity to the notions expressed by a large proportion of the 11 year old remedial readers in the present study.

Thus the interviews revealed that despite their low reading ability only one third of the children viewed themselves as 'poor' readers and that the frames of reference used to distinguish the attributes of a 'good' reader were largely concerned with the mechanical (de-coding) and behavioural (performance) aspects of reading. Reading for meaning, or the need to understand as well as decode the words in a text were mentioned explicitly by only 4 Better readers. Turning to subsequent sections of the structured interviews was there further evidence to support the view that they saw reading as essentially a 'bottom-up' process?

The findings regarding the children's criteria for distinguishing EASY and DIFFICULT books lent more support to this view in as much as the majority of the comments made reference to the structural or the physical aspects of text rather than to the semantics or the content. For example, even though there was a 100% consensus that "the words" were important, the children's explanations focussed on "length" and/or "difficulty" and how these two properties related to decoding the graphics rather than to comprehending the meaning.



Only 17% (9) of the 52 children gave any indication that the content or the subject matter of a book and a reader's ability to understand the words might be viewed as a determiner of ease or difficulty. Moreover, the three remaining categories of comments which could be distinguished each referred to aspects of a text's structural or physical properties: the PRINT size, the number of PICTURES and the actual SIZE (length) of the book ("thicker" or "thinner"). Ninety-two percent of the children mentioned PRINT SIZE (and layout) whilst approximately half the readers gave responses relating to PICTURES and SIZE.

Generally speaking then, the children's frames of reference for the distinction between EASY and DIFFICULT texts could be related to their largely mechanical/behavioural perceptions of 'good' and 'poor' readers in as much as references to 'meaning' were few and far between and the 'external' features of books (and of words) received great emphasis.

Once again it proved difficult to trace any existing research which had investigated readers' perceptions of EASY and DIFFICULT texts. Apart from Jessie Reid's well-known paper 'Learning to think about reading', published in 1966, it seems that no attention has been paid to this aspect of children's metalinguistic knowledge. (Although, of course, researchers such as Hartley (1985) have stressed how the spacing and layout of text can relate to the actual ease or difficulty of children's comprehension and recall). However, the focus of Reid's question was slightly different from that posed by the present author in that she specifically asked her sample of beginning readers to explain "what was hard" about their reading books rather than asking them to distinguish between EASY and

DIFFICULT texts per se. Nevertheless, the responses of Reid's (much younger) children are comparable with those of the 11 year old remedial readers reported here in the sense that her young readers who were able to elaborate on why their reading books were "hard" commented on phonic difficulties arising from irregularities in the orthography. It is worth mentioning here that, whilst Reid does not give an indication of the percentage of the 5 year old children in her sample who were able to produce such explanations, the responses she quotes (those of ANDREW and TOMMY) show that these beginning readers were, if anything, able to offer more detailed and pertinent examples of the difficulties arising from orthographic irregularities than were the 11 year old readers who took part in the present author's study.

Having suggested that the main themes emerging from the analysis of the children's responses to the 'good/poor' reader and 'easy/difficult' text questions were compatible in terms of reading being viewed as a 'bottom-up' process, the findings which emerged from the 'reading strategies' section of the interviews can be shown to further illustrate this tendency. As Fig. 20.1 (Chapter 20) shows the problem-solving strategies suggested by the readers' responses to the question "What do you do if you don't know a word?" could be grouped into 7 categories. However, the children were far more likely to mention the decoding strategies "split the words" or "sound the letters" than any other strategy - 88% and 77% respectively indicated that these were appropriate responses to an unknown word whereas only 13% (7) of the children gave responses which indicated their knowledge that the linguistic context could be a useful source of information. Although the number of children involved was so small it is worth noting the majority were members of

the Better readers' group - 4 Better readers, 2 Fair readers and 1 Poorer reader gave this type of response.

There was good evidence then that the readers as a group were much more likely to focus their attention on decoding strategies than on strategies concerned with reading for meaning, and this finding stood in sharp contrast to the general findings from the oral reading error analysis, and particularly from the 'out-of-context' data which pointed to the children's ability and predisposition to make use of contextual cues. The point here is that, whilst the readers were aware of the decoding strategies they made use of, they seemed relatively unaware of both their ability to make use of contextual information and of their success in doing so when faced with the problem of an unknown word. (This 'success' having been indicated most precisely by the 'out-of-context' data reported in Chapter 16).

The implications of this 'mismatch' between how reading problems were viewed, and their solution attempted, will be more fully explored in the following chapter where the oral reading errors and the metalinguistic knowledge of particular individuals are juxtaposed. For the moment it is more appropriate to limit the discussion to the finding that the children saw themselves primarily as 'decoders' and to compare this finding with the findings of other researchers.

Whilst there is a general consensus in oral reading error research that readers of all ages and stages make use, to differing degrees, of both the contextual and the graphic information provided by a text, little attention seems to have been paid to the specific question of whether the readers themselves are aware of their use of

these complementary strategies - strategies which as Potter (1980) points out, are by no means mutually exclusive. The evidence that is available, however, points very clearly to the conclusion that readers, particularly young and/or poor readers see themselves as 'decoders'. For example Canney and Winograd (1980) studied 8 and 12 year olds and showed a decoding focus for both good and poor readers although the good readers in both age groups mentioned the use of meaning-focussed strategies as well as 'sounding out' and blending etc. The interview conducted by Martin (1986) with 'Leslie' a 'reading failure' has already been mentioned above in connection with his focus on decoding skills and Reid's (1966) study also deserves further mention here since her series of interviews with beginning readers also showed the development of this emphasis in terms of her subjects' responses to the specific questions "What do you do if you don't know a word?" Whilst none of these researchers were investigating children's metalinguistic knowledge of problem-solving strategies with a view to comparing this with the readers' actual oral reading errors, it seems clear that the general findings give a strong indication that young and/or poor readers stress the mechanical (decoding) aspects of problem-solving - a finding reflected in the verbal responses of the children who took part in the present author's study.

Summarising the findings from the metalinguistic interviews at this point, it can be seen that the children's responses to the questions concerned with 'good/poor' readers, with 'easy/difficult' texts and with 'reading strategies' were consistent with the emerging theme that the 11 year old remedial readers viewed reading, and themselves as readers, as being primarily concerned with the translation of the orthographic features of text and that this view

was compatible with the views of younger readers studied by previous researchers. Also running throughout the findings was an additional thread of evidence which suggested that the readers who had less of a discrepancy between their real ages and reading ages were more likely to be cognizant of the need to process text for meaning - this finding again being compatible with the limited evidence available from studies of younger, more average, readers.

The fourth section of the interviews was concerned with the investigation of a more specific aspect of the children's metalinguistic knowledge - their knowledge and understanding of the basic 'technical' terms 'word' and 'letter' and their notions about the names and functions of certain punctuation symbols. In its widest sense this aspect of the investigation was concerned with the question of whether or not the remedial readers possessed inappropriate or 'alternative' metalinguistic knowledge of such terms - knowledge which might be more likely to hinder rather than help their reading progress. For example, research with younger children has shown, by and large, that the terms 'word' and 'letter' are poorly understood. Moreover, whilst little attention has been paid to readers' appreciation of the function of punctuation symbols and how these play a part in carrying the meaning of a text, a previous investigation by the present author (Henshaw, 1983) showed infant school children could offer a whole variety of novel explanations for the functions of the 'fullstop'. How such 'alternative' metalinguistic knowledge might add to or detract from a reader's progress, remains an open question at the present time and this question was not specifically addressed in the study reported here. Rather it attempted only to add some additional descriptive information to the limited knowledge provided by existing studies.

The findings provided by this fourth section of the structured interviews can be summarised very briefly here since they have already received a good deal of attention in Chapter 21. Generally speaking there was little evidence to suggest that the readers were likely to experience confusion over the terms 'word' and 'letter' and there was considerable evidence that the majority of the 52 children - even though they may not have been able to name the punctuation symbols - had an awareness of the information they carried regarding the meaning of a text. For example, approximately 90% of the children were able to explain what was indicated by 'speech marks'. However, there were a few instances of novel or 'alternative' metalinguistic explanations - LEE, for example, said speech marks were used "for when somebody's really angry" - and the majority of this type of comment was offered by children who were members of the Poorer reader's group. This suggested that perhaps some relationships existed between idiosyncratic metalinguistic knowledge and low reading ability. However, this can only be regarded as a very tentative suggestion in view of the small number of Poorer readers concerned (5) and because of the lack of comparable evidence available from existing research. Furthermore, even if the relationship were to be more convincingly shown, there is no way of knowing whether or not it could be regarded as causal or, this being the case, in which direction it might operate. However, a final point regarding 'novel' explanations or examples of 'alternative' metalinguistic knowledge may also be made in connection with the meaningfulness of such explanations to the children who 'created' them. This is concerned with the possibility that, whilst the child's concept of, say speech marks, or an apostrophe, may not correspond to that of the adult reader, it may nevertheless be 'workable' for that particular child at that particular stage of his

or her reading development, i.e. it may do little to impair the comprehension of a text. For example, TRACEY'S comment that speech marks indicate that "you say it louder - then you know what he's saying" might be taken to illustrate this point.

In conclusion the results from this particular section of the interviews cannot be compared with the findings of other researchers since the author has been unable to trace any studies involving readers' perceptions of punctuation symbols apart from her own small-scale investigation of infant school children's views about the purpose of the fullstop. However, it is worth mentioning here that, generally speaking, the 52 remedial readers were impressive in their willingness and ability to explain the functions of punctuation and it would be of interest, in some future research, to investigate how little or how much this knowledge was drawn upon during an actual reading performance. For example, how much a reader's comprehension of a text was influenced by punctuation, might be investigated by presenting passages from which some punctuation (say speech marks) had been removed and comparing a reader's comprehension score on this passage and an alternative 'normal' passage. Another investigation which could investigate how much functional use a reader's knowledge has, might be concerned with writing, i.e. how much use do children make of their verbally expressed knowledge of punctuation when actually writing their own scripts?

Turning finally to the section of the structured interviews which involved the question of the readers' opinions about the purposes of reading, how might their responses be summarised and what do they have to add to the picture of the 52 remedial readers which has so far been painted?

Two major themes which are relevant to these questions, have already been emphasised during this summary chapter. First of all it was suggested that far from exuding an air of 'failure' and 'despondency' when questioned about their perceptions of themselves as readers and about their metalinguistic knowledge, the children brought to the interviews a refreshing range of perceptions, opinions and explanations which seemed to belie their generally poor reading attainment. 'Hard evidence' to substantiate the validity of this impression has not been specifically isolated and quantified but it is hoped that enough of the general tenor of the interviews has been conveyed during the preceding chapters to suggest that the author's perceptions were not erroneous in this respect. A second major theme has been more concerned with specific evidence - evidence which has been interpreted to suggest that for the most part the children viewed both themselves as readers, and reading in general, as being mainly concerned with the business of decoding print rather than constructing meaning. More specifically, it has been suggested that the children's responses to the 'good/poor' readers question, the 'easy/difficult' texts question, and the question concerned with their reported problem-solving strategies, all pointed towards emphasising decoding. It has been further suggested that a thread of evidence exists to support the view that the least able of the readers were the most likely to view both successful readers and reading itself from this mechanical 'bottom-up' perspective.

To return to the question posed above - what does a summary of the children's opinions about the purposes of reading add to this picture? The answer is that it adds a great deal in as much as it shows clearly that when children are asked to give their views on why people want to read (i.e. reading as a product as opposed to reading



as a process) their comments illustrate their implicit but over-riding perception that reading is indeed to do with meaning - the vast majority expressed the view that reading was both pleasurable and functional. Furthermore, a high percentage of the responses indicated that reading as a product - an acquired skill - was one which had great relevance outside the classroom (for pleasure purposes) and particularly, for the future (jobs, information etc.). As the relevant results chapter indicated (Chapter 22) the children's responses to the question "Why do you/people want to read?" could be allocated to 6 categories with 77%, 71% and 69% of the responses respectively indicating that the purpose of reading was concerned with PLEASURE, JOBS and INFORMATION. The remaining 3 categories of response WRITING (44%), EDUCATION (15%) SPELLING (6%) indicated that 'academic' frames of reference were also operating but it was of interest to note that many of the WRITING responses actually related to future (adult) pursuits such as signing cheques and signing on the dole rather than to classroom-based activities. Whilst there were few differences in the frequency of the categories of response in terms of the children's measured reading ability there was the suggestion that Poorer readers were more likely to mention the functional aspects (JOBS, INFORMATION) than the recreational aspects. Nevertheless, 12 of the 17 Poorer readers did mention reading for PLEASURE so there was only a slight indication that the children with the most difficulties saw reading as a necessary evil - something which must be mastered but not particularly enjoyed.

In conclusion, perhaps the most important point which can be made about the findings from the 'purposes of reading' section of the interviews is that they provide a frame - a context - in which the children's views about reading as a process can be reconsidered.

They suggest, perhaps, that researchers should not be too hasty in concluding that children with reading difficulties view reading only as a somewhat mechanical decoding activity. Responses to the process-type questions, included in various interview schedules, may indicate that they do (see Canney and Winnograd, 1980; Myers and Paris, 1978) but process-type responses give only a partial view of a reader's concept of reading. Despite their low ability, the readers who took part in the present author's study had an 'overview' of reading which was characterised by the implicit belief that it was essentially to do with extracting meaning (and/or information) from text. This was not evident in terms of their metalinguistic responses as they related to their perceptions of problem-solving, as has been stressed above. It would seem likely therefore, that the children's perceptions of how they tackled an 'unknown word', and their performances in attempting to do so, were by no means identical.

PART FIVE

ORAL READING ERRORS AND METALINGUISTIC KNOWLEDGE

## CHAPTER 24

### A SUMMARY OF THE MAJOR FINDINGS OF THE STUDY AND SOME POSSIBLE IMPLICATIONS FOR CLASSROOM PRACTICE AND FUTURE RESEARCH

#### Overview

The overall aim of the study reported in previous chapters was to describe the reading behaviour of 52 eleven year old Secondary school 'remedial' readers as it appeared through the analysis of their oral reading errors and their metalinguistic knowledge. The purpose of this final chapter is to provide an overview of the study and to consider some of its implications. Its limitations will also be considered.

The chapter is divided into four sections. Section 1 provides an outline of the rationale for the empirical work undertaken and summarises the main features of the methodology. Section 2 presents the major findings of the study and their inter-relations with each other. In Section 3 the limitations of the approach adopted are discussed and suggestions made as to how such research might be improved and developed. The final section, Section 4, considers some of the possible practical implications of the present study and of further studies of the oral reading errors and metalinguistic knowledge of remedial readers in the Secondary school.

#### Section 1: empirical work and rationale

Fifty-two 11/12 year old Secondary school 'remedial' readers participated in a study which investigated the quantitative and the qualitative nature of their oral reading errors and their metalinguistic knowledge. The empirical work involved the pupils in nine reading task/interview sessions which took place over a period

of one academic year (1982/83). At this time, and at the time of writing, there is very little information available concerning the oral reading errors and the metalinguistic knowledge of Secondary school pupils. The empirical work undertaken was thus designed to extend the existing literature in the following ways:

- \* to provide descriptive information about the quantitative and the qualitative nature of oral reading errors made by Secondary school 'remedial' readers.
- \* to gain information about the reading strengths and reading weaknesses of the pupils as these were apparent through the analysis of their errors.
- \* to focus on the question of how the 'accessibility' (not just the linguistic difficulty) of reading materials might affect the 'quality' of the children's errors.
- \* to focus particularly on the children's use (and/or reliance on) contextual cues during the successful reading of 'difficult' words.
- \* to add a further dimension to the information gained from the analysis of the oral reading errors by investigating the children's metalinguistic knowledge about reading and printed language.

In order to gain a 'rounded picture' of the children's reading strengths and weaknesses oral reading error data was collected by

observing their performances on three types of text. The texts were of similar linguistic difficulty but differed in terms of their 'accessibility'. The most accessible text, the SELF-text, involved the production of an individual 'self-generated' text for each of the 52 children. These texts were based on the pupils' oral language and contained no words which were not part of their own vocabulary. The second type of text, the PEER-text, involved the children (matched for gender and reading age) reading each other's self-generated texts. The vocabulary and content of these texts differed (for individual children) from that of the SELF-texts although the subject-matter: 'friends', 'hobbies', 'school', 'pets', etc., was the same. These PEER-texts might therefore be said to have provided less accessibility, in terms of a reader's specific background knowledge of what was to be read, but the vocabulary and concepts involved could be assumed to be largely compatible with the readers' own experience. The third type of text, the CLASS-text, was a passage taken from a 'class-reader' which the children were soon to encounter in the classroom. The excerpt involved several characters and contained a good deal of reported speech. It outlined a sequence of events for which the children would have to draw upon their more general experience of story-book language and events. This CLASS-text passage, chosen after consultation with their teachers, was felt to be within the children's reading and comprehension capabilities but could be considered the least accessible of the three texts in terms of the background knowledge which they could bring to bear upon it.

A further dimension of the study involved the readers in a separate task designed to explore the extent to which their correct reading of 'difficult' words from the SELF, PEER and CLASS-texts had

depended upon the use of contextual cues. This task shifted the focus of the investigation away from the sole consideration of the children's reading errors and provided information about their use of (or dependency on) contextual cues when 'difficult' words were read correctly. Twenty 'difficult' words from each type of text were presented, in the form of a list, to each of the 52 children - the crucial point being that each word had previously been read correctly, within context, by the individuals concerned during the earlier SELF, PEER and CLASS-text performances. Parametric statistics (ANOVA) were used in the analysis of the data.

The final phase of the study involved the investigation of the children's metalinguistic knowledge about reading, and their perceptions of themselves as readers. An attempt was made to relate what they said they did when they read aloud, to what their oral reading errors suggested they did. The individually -conducted metalinguistic knowledge interviews pursued five main themes: 1) the children's perceptions of their own reading attainment and of what characterised 'good' and 'poor' readers; 2) their concepts of 'easy' and 'difficult' reading material; 3) their self-reported reading strategies for solving 'unknown' words; 4) their understanding of some of the basic 'technical' vocabulary of reading and printed language; 5) their opinions about the purposes of reading.

For the purpose of the analyses performed upon the data the 52 remedial readers were categorised as 'Better' (19), 'Fair' (16) and 'Poorer' (17) readers according to the discrepancy which existed between their chronological ages and their reading ages (Schonell).

A total of 1536 oral reading errors were observed during the SELF, PEER and CLASS-text reading performances. The relatively small numbers of REFUSAL, OMISSION and INSERTION errors were analysed by means of a frequency-count and by qualitative comparisons of the errors according to text-type and reading ability groups. The SUBSTITUTION errors were subjected to a detailed analysis which was designed by the present author. This included a consideration of each error's graphic similarity to the target word in question, and its semantic and syntactic appropriateness at four different levels of acceptability. The SUBSTITUTION error analyses also included a consideration of the proportion of errors which appeared to be the result of a combination of the use of graphic and contextual cues. Non-parametric statistics (Chi-square) were used where these were appropriate.

The children's responses during the metalinguistic knowledge interviews were subjected to a quantitative and qualitative analyses which involved the post hoc categorisation and comparison of the comments of the Better, Fair and Poorer readers. Chi-square calculations were performed upon the data where these were possible.

## Section 2: the major findings and their inter-relationships.

The most important findings to emerge from the study are itemised below.

1. The pattern of oral reading errors observed in respect of the Secondary school remedial readers was similar to that reported by previous researchers studying younger and more 'average' readers (Chapters 6, 9 and 12).



- \* Around 80% of the errors fell into the SUBSTITUTIONS category.
- \* The remaining 20% of the errors were more or less equally distributed between the REFUSALS, OMISSIONS and INSERTIONS categories.

Given the paucity of existing information regarding the pattern of oral reading errors by 'older' remedial readers, these findings will no doubt be of interest to the teachers of such pupils since they suggest that, despite their poor reading attainment, the error-profiles of such children are not unlike those of younger children whose reading progress is regarded as satisfactory. Whatever the problems of these Secondary school remedial readers they were not characterised by an 'abnormal' tendency to refuse, omit or insert words during an oral reading performance, and the frequency of their 'guesses' was similar to that of normally- progressing younger readers.

However, with respect to the REFUSAL errors observed on the SELF, PEER and CLASS-texts it is worth noting the following points:

- \* The vast majority of REFUSAL errors (94%) were made by the children with the lowest reading ages (the Poorer readers).
- \* REFUSAL errors were much more likely to occur on the SELF and PEER-texts than on the 'conventional' CLASS-text.

A simple explanation of the finding that the readers with the lowest-measured reading ages made the highest number of REFUSAL errors would be that these were the consequence of very poor graphophonic skills. However, this view probably provides only a partial explanation of the findings of the present study. It would not explain, for example, why the highest incidence of such errors were observed on the 'more accessible' SELF and PEER-texts. The integration of the REFUSAL error findings thus leads the author to the view that it would be a mistake to regard such errors merely as a sign of reading weakness. Rather, it can be argued, REFUSAL errors can be alternatively viewed as indicators of a reader's ability to make use of contextual cues (particularly where a text renders these largely 'accessible') to discriminate between a correct and an inappropriate response. Put simply, the argument is that where graphophonic skills are poor, but where a text is semantically accessible, a REFUSAL error might show more discrimination on the part of the reader than would a semantically inappropriate 'guess'. (See Chapter 15, p444.) If such an argument could be shown to be valid in respect of larger groups of 'older' remedial readers, teachers who have hitherto assumed that REFUSAL errors simply signal 'poor word-attack' on the part of some readers might feel it worthwhile to make a closer examination of the contexts in which such errors occur. (Although a further point which may be made, and one not considered in the analyses performed by the present author, is that the position of the refused word in the sentence may be very significant.)

2. Several general reading strengths and specific reading weaknesses were identified through the detailed analysis of the children's SUBSTITUTION errors on the SELF, PEER and CLASS-texts (Chapter 15).

In relation to reading strengths the data gave a clear indication that the group of remedial readers was capable of processing the graphic, semantic and syntactic information available from the texts:

- \* 86% of the children's errors showed some graphic similarity with the target words in question.
- \* Around 90% of the errors showed some degree of both semantic and syntactic acceptability within the context of the reading passages.
- \* a high incidence of COMBINED-SOURCE errors (83%) gave some indication that the children were making attempts to synthesise the graphic and contextual cues.

*However, specific weaknesses in problem-solving strategies were also identified through the SUBSTITUTION error analyses. In the main these were concerned with:*

- \* A particularly low level of graphic similarity between the final letters of the SUBSTITUTION errors and the target words (27%).
- \* A low level of semantic acceptability of the SUBSTITUTION errors at the WITHIN PASSAGE level of acceptability (43%).

Thus, on the one hand, the 'crude' analysis of the SUBSTITUTION error data gave a clear indication that the 11 year old remedial readers were capable of utilising, and attempting to integrate, the different

sources of information provided by the texts. However, the more detailed examination of the children's errors revealed findings which could be taken as indicators of the severity of the specific problems which faced the children as they attempted to make sense of printed language. For example, the finding that only 27% of the substituted words had final letters in common with those of the target words (as opposed to 73% with 'beginning similarity') runs counter to the common finding that readers are typically aware that the most salient cues are to be found at the end as well as at the beginning of words (Weber 1968). Nevertheless, it can be argued, a graphically incorrect word-ending need not result in an error which disrupts the sense of the context in which it appears. In the present study however, the integration of the 'word-ending' finding with the 'acceptability WITHIN PASSAGE finding' (detailed above) suggests that one consequence of such graphically incorrect errors was that the overall meaning of the passage was seriously disrupted. More specifically, when the poorest readers in the group read the passage taken from the (soon to be used) 'class-reader' only 20% of their SUBSTITUTION errors did not disrupt the intended meaning of its message, and the inaccuracies which accounted for this stemmed largely from graphic errors at the ends of the words.

### 3. The 'quality' of the SUBSTITUTION errors differed according to text-type and to reading ability (CHAPTER 15).

In summary, the reading performances of the children on the less accessible CLASS-text passage showed the SUBSTITUTION errors of the Poorer readers to be qualitatively inferior to those of the Better and Fair group readers. However, this difference in the graphic similarity and the semantic and syntactic acceptability of the

substituted words was not in evidence when the SELF and PEER-text performances of the three ability groups were compared. On these more accessible texts the errors of the Poorer readers were, by and large as 'good' as those of their higher ability age-mates. These findings were thus interpreted to suggest that the reading strengths and weaknesses of the Better, Fair and Poorer readers did not differ per se - rather the reading strengths of the Poorer readers were shown to be less 'portable' across different reading situations. The suggestion is, therefore, that a lack of flexibility in applying potentially successful reading strategies was a major distinguishing feature of the error-profiles of the children with the lowest-measured reading ability in the group of 52 readers. This finding will no doubt be of interest to teachers who wish to avoid an over-narrow view of the reading strengths of some of their low-ability pupils.

4. The children's performance on the 'out-of-context' tasks suggested that their ability to read certain 'difficult' words correctly was dependent upon their successful processing of contextual cues. This 'context-dependency' was shown to be affected by both reading ability and text-type (Chapter 16).

In general terms, the lower the children's graphic decoding ability, and the less accessible the text, the more crucial was the presence of contextual information in the correct reading of (potentially) 'difficult' words. These findings, which did not rely on a sole focus on the analysis of errors, were compatible with the findings from the analyses performed on the SUBSTITUTION errors made on the SELF, PEER and CLASS-texts. Apart from showing very clearly that the

remedial readers were capable of making successful use of contextual cues however, (an assumption which could be made but not unequivocally demonstrated by the SUBSTITUTION error data on the three texts) the text and ability effects apparent also integrated well with the notion of the differing flexibility of the children's reading strategies suggested above.

**5. Despite their 'remedial' status only 17 of the 52 children (33%) held a negative view of their own reading ability (Chapter 18).**

A closer examination of the children's responses to the question 'Are you a good reader now?' revealed that the negative answers were not confined to the children with the lowest reading ability although approximately half (8) of the Poorer readers as opposed to 25% of the Better and Fair readers (5 and 4 children respectively) viewed themselves as 'poor' readers. These findings raised the question of whether or not the children who felt they were 'good' readers might have benefited from holding a more realistic perception of their own reading ability. How this might have been achieved, whilst helping them maintain their confidence and self-esteem is a sensitive question which was outside the brief of the present study. One suggestion however, (a suggestion further endorsed by the 'mismatch' finding detailed below) is that such readers might be encouraged to 'take stock' of their own reading strengths and weaknesses through the analysis of their own errors. Such an exercise need not involve the value-laden terms 'good' or 'bad' reader.

6. There were indications that a 'mismatch' existed between the children's 'verbal knowledge' of their problem-solving strategies and their 'performance knowledge' of these strategies during the oral reading performances (Chapter 20).

The 'mismatch' identified concerned the children's reported strategies for dealing with an 'unknown' word and the strategies which were apparent from the analysis of their oral reading errors on the SELF, PEER and CLASS-texts and from the findings of the 'out-of-context' tasks. Simplifying greatly it could be seen that the readers' verbal responses to the question, 'What do you do if you don't know a word?' suggested that they had a decoding (or 'bottom-up') approach to reading - an approach which, by and large, was not much in evidence during their actual reading performances. As detailed above, these gave a clear indication that the use of contextual cues played a large (sometimes crucial) part in their ability to solve potentially 'unknown' words.

7. The majority of the readers had a good grasp of the function of 'technical' terms such as WORD, LETTER, FULLSTOP, QUESTION MARK etc. although idiosyncratic metalinguistic explanations of the use and function of such features of print were offered by some of the poorest readers in the sample (Chapter 21).

The children's responses showed that arbitrary references to, for example, "noun-markers", "pronouns" and "vowels" were offered in their attempts to explain what words were 'made of'. However, the examination of the responses raised the possibility that as mature readers we stand in danger of over-estimating the adverse effects of such 'alternative' metalinguistic knowledge. It seemed likely, for

instance, that the children's alternative explanations of the functions of SPEECH MARKS might be workable for them at their particular stage of reading development (p.540-542). By and large, the idiosyncratic explanations of the technical terms investigated in *the present study could be viewed* as 'not altogether correct' rather than as simply 'wrong'.

8. The children appeared to hold very positive views of reading and its purposes and saw it as a useful and necessary skill in their day-to-day and future (adult) activities (Chapter 22).

The majority of the responses to the question, 'Why do you/people want to read?' indicated that reading was seen as both pleasurable and functional. No 'Don't know' or negative responses were recorded. Moreover, it was of interest to note that 'reading for pleasure' was mentioned by 12 of the 17 poorest readers in the group.

### The integration of the major findings

On the one hand the major findings of the study portray a group of Secondary school 'remedial' readers who, despite an average discrepancy of -30 months between their chronological ages and their reading ages, showed evidence of the development of several potentially successful reading strategies. The various analyses of their oral reading errors showed them capable of utilising the graphic, semantic and syntactic sources of information available from the texts, and, judging by the high percentage of COMBINED-SOURCE errors recorded, attempts were being made to synthesise these cues. By analysing their oral reading errors on the SELF, PEER and



CLASS-texts it was possible to show that the 'accessibility' of the reading material presented affected the 'quality' (although not the quantity) of the children's errors. Of particular interest in this connection was the finding that the poorest readers in the group - children whose reading attainment was very low by any standards - did not lack potentially successful reading strategies per se. Rather, they lacked the flexibility to apply these reading strengths across different reading situations. Moreover, the findings relating to the metalinguistic knowledge of the children added to, rather than detracted from, the largely positive picture of reading attainment which it is possible to extract from the major findings of the study.

Nevertheless, the fundamental point remains that the 52 children described throughout this thesis were 'remedial' readers - readers who despite several years of reading instruction had embarked upon their Secondary school education with what was likely to be a serious handicap in terms of the reading demands which would be made upon them in the Comprehensive school classroom. What then were the aspects of the major findings which reflected this more negative view of the children's reading attainment?

Particularly significant in this respect was the finding that, despite the high percentages of graphically and semantically /syntactically appropriate errors, the more detailed analyses of these deviations from the text revealed that more than half of the words substituted by the children had the effect of disrupting the essential meaning of the texts at the 'whole passage' level. Moreover, when the poorest readers in the group read the least accessible (but most pertinent) text this figure rose to an alarming 80%. Whilst it is true that no independent measure of comprehension

(such as 'retelling') was employed by the present author (see Limitation 2 below) such a finding must cast doubt on the children's ability to have made 'overall sense' of the conventional CLASS-text passage. Additionally, when this finding is juxtaposed with the findings from the 'out-of-context' task, it becomes apparent that the 'reading for meaning' implied by these 'out-of-context' findings need further consideration i.e. the WITHIN PASSAGE and the 'out-of-context' findings taken together reveal that the children who relied most heavily on contextual cues whilst reading 'difficult' words correctly were nevertheless the same children whose SUBSTITUTION errors were the least likely to be acceptable in terms of the intended meaning of the CLASS-text passage as a 'parcel' of text. It would seem that we cannot assume that 'reading for meaning' is implied by a heavy reliance on the contextual cues which immediately surround a target word.

A further point which can be made in attempting to partially explain the children's 'remedial' status as readers concerns the inter-relation of certain aspects of the oral reading error findings with aspects of the findings from the metalinguistic knowledge interviews. Most important in this respect was the lack of reference by the children to the very problem-solving strategy upon which they appeared to be most likely to rely - the use of contextual cues in solving potentially 'difficult' words. Only four of the 52 children suggested that they were aware that such a strategy was appropriate - this despite the evidence from the 'out-of-context' tasks that the ability to use, as one of these four readers put it "the before and after words", was a crucial factor in the correct reading of some of the 'difficult' words contained in the SELF, PEER and CLASS-texts.

In summary the major findings of the study portrayed a complex picture of a group of readers whose oral reading errors and metalinguistic knowledge sometimes belied, sometimes confirmed their low reading attainment. Given the dearth of existing information regarding these aspects of the reading development of Secondary school remedial readers it nevertheless seems possible that aspects of the major findings detailed above could have implications for classroom practice and for the further development of such classroom based research. Some of these will be discussed in the final section of this chapter (Section 4). However, it is appropriate to preface such a discussion with an acknowledgement of the several limitations and flaws of the study as it stands.

### Section 3: the limitations of the present study

#### **Methodological considerations**

1. A major problem arose from the time which elapsed between the children's reading of the SELF, PEER and CLASS-texts. This led to difficulties in establishing whether or not differences in the pattern and the 'quality' of the oral reading errors were due to text differences, or due to differences in the children's reading behaviour over time. Had the three texts been presented within a more limited time-span this potentially confounding variable might have been better controlled. It is worth noting in this respect though that little improvement was observed in the pupils' reading ages during the time which elapsed between the text readings, and that the poorest readers in the sample did better (in terms of the reading strengths and weaknesses identified through their oral reading errors) on the 'earlier' SELF-texts than on the later-

presented CLASS-text.

2. A second problem arose from the author's determination to include in the sample all 52 of the school's intake of 'remedial' readers, irrespective of whether they were full-time members of the remedial department or children placed in the main-stream classes. This decision to include in the study the whole First Year intake of children with known reading problems had the advantage that attempts could be made to compare their oral reading errors and metalinguistic knowledge in terms of the wide differences which existed between them regarding their real age/reading age discrepancy scores. However, it is probably correct that a more detailed and sensitive study of remedial readers' oral reading errors and metalinguistic knowledge would have been accomplished if the sample had been limited to the 19 children who were actually based within the Remedial Department of the school. From a purely practical point of view the number of errors observed for the children with the highest reading ages was very small so that the effort involved in producing 'self-generated' texts for them was only poorly rewarded in terms of what could be inferred from their reading performances. Had the author concentrated upon the study of the 19 remedial readers based in the Remedial Department the time involved in the production of SELF-texts for the main-stream children could no doubt have been more wisely invested (but see 3 below). For example, the analysis of the children's oral reading errors before any attempts were made to investigate their metalinguistic knowledge could have been undertaken. The questions then posed during the structured interviews could have been 'tailored' to the children's actual reading performances in order to provide a much more detailed and sensitive picture of possible areas of 'match' and 'mismatch' between

their verbal and performance knowledge about reading, and about themselves as readers. With hindsight, responses concerning (for example) 'looking at the letters' might have been followed up by questions regarding which letters (beginning, middle or final?) and the children could then have provided important cues as to their perceived solutions to the solving of a problem-word. Such a question would have established whether or not the children were aware of the salient cues at the beginning and ending of words despite the fact that, by and large, their oral reading errors led to the assumption that they were not. Similarly the author might have attempted to make closer links between the children's verbal knowledge of the technical terms associated with the punctuation of language and the contribution such knowledge made to their reading behaviour - particularly with regard to their comprehension of text. (For example, does an incomplete understanding of the function of SPEECH MARKS limit the reader's ability to make good contextual guesses when reading sentences which include reported speech?)

3. The study as it stands also suffers from the lack of comparison group of normal readers. Perhaps limiting the sample of remedial readers to 19 (as suggested above) but drawing a comparative-sized sample of 'average' readers from the school's main-stream classes would have paid dividends in this respect. However, the methodology of the study was designed with remedial readers in mind and it seems unlikely that 'average' readers would produce many oral reading errors whilst reading 'self-generated' texts. Thus the choice of materials used had its part to play in the limitations of the study.

**Limitations of the approach**

With hindsight, the author's approach to the study of the oral reading errors and metalinguistic knowledge of Secondary school remedial readers might be regarded as narrow in the following ways:

1. An important omission during the conception of the study was the failure to acknowledge the importance of the day-to-day reading demands made upon the pupils in the classroom. Given that the children were Secondary school pupils it might be assumed that a good deal of their time was spent in the independent/silent reading of subject-based textbooks, worksheets etc. Some observation and consideration of reading in this 'real' situation would have given a greater insight into the difficulties likely to be encountered by the children. The likely consequences of what could be learned from their oral reading errors for their ability to meet these important day-to-day demands might then have received more practical consideration.

2. A similar point can also be made regarding the author's failure to adopt an independent measure of the children's comprehension of the reading materials chosen. For example, a 'retelling' measure of the CLASS-text would have been most useful in investigating the issue of the extent to which the ability to use contextual cues can be taken to imply 'reading for meaning' in terms of the main themes of a text. It may be that the children whose SUBSTITUTION errors were largely semantically acceptable at the WITHIN PASSAGE level of analysis nevertheless remained largely unaware of the unfolding of the events described during the CLASS-text. Alternatively, children who made many semantically unacceptable SUBSTITUTION errors may still have gleaned a workable overview of the intended message of the author of the passage. The findings of the present study are useful

in that they raise this question, but they are unhelpful in providing information which would allow it to be answered in a satisfactory way. The question seems a particularly pertinent one in the case of Secondary school readers where the independent reading and assimilation of information becomes more and more in demand as pupils progress through the school.

3. A third point which may be made concerning the over-narrow approach of the present study relates to the metalinguistic questioning. Some specific (methodological) issues in relation to this aspect of the investigation have already been raised above (methodological considerations 2.). However, in terms of general approach the metalinguistic interviews would have benefited from the adoption of a wider perspective which again acknowledged the children's status as Secondary school pupils. Rather than asking very general questions about, for example, EASY/ DIFFICULT texts, more incisive questions about the children's ability to follow, understand and generally 'find their way around' textbooks and work-sheets used in History, Geography or Science might have been asked. Such information, set alongside their oral reading errors, and the possible implications of these for their day to day silent reading tasks, which would no doubt have provided insights which had a more practical value for their classroom teachers and for further classroom based research involving Secondary school less able readers.

Section 4: Some possible practical implications of the present study and further studies of the oral reading errors and the metalinguistic knowledge of Secondary school remedial readers.

## The present study

Despite the limitations of the present study certain aspects of the methodology and the findings described here and in previous chapters may have practical value for teachers who see the investigation of their pupils' oral reading errors and metalinguistic knowledge as an attractive way of 'taking stock' of reading strengths and weaknesses, and of capitalising upon the oral language which pupils possess.

Three main aspects of the study's findings seem worth particular consideration in this respect.

1. Oral reading errors and the 'accessibility' of text. From the findings described above pertaining to the children's reading strengths and weaknesses, the 'accessibility' (not just the linguistic difficulty) of a text would seem to be important in allowing readers to capitalise on their reading strengths, and minimise the effects of their reading weaknesses. In the present study the SELF-texts were 'tailor-made' for each of the 52 readers in order to provide them with the 'optimum' opportunity to benefit from bringing to the reading task their 'specialised' knowledge of its content and vocabulary. Whilst many of us would agree that reading instruction should provide cognitive and linguistic continuity with a child's own experience and language, and the provision of SELF and PEER-texts might be seen as useful in this respect (Athey 1983), the present author is not proposing that the teachers of Secondary school remedial readers set about transcribing their pupils' speech in order to ensure the accessibility of their reading materials. This may or may not be beneficial, (it would certainly be time-consuming) but the



point to be made here is a different one. It concerns the author's proposal that time spent rendering an intended 'class-reader' more accessible to poor readers might pay dividends in terms of allowing children to capitalise on the reading skills they possess but are less able to utilise in some situations than in others.

For example, one implication of the finding that the 'quality' of the poorest readers' SUBSTITUTION errors on the SELF and PEER-texts was comparable to that of the children with much higher reading ages, was that they were the readers who were most disadvantaged by the relative 'inaccessibility' of the CLASS-text. (It is worth emphasising here that their reading accuracy rate on all three texts was very similar so we are not dealing with a simple question of text difficulty). It seems possible than that these children may have benefited considerably if the CLASS-text had been rendered more accessible through the provision of a (verbal) overview of its vocabulary and content. For example, the uncommon names, 'Al', 'Shari' and 'Eldorado' provoked many reading errors which may have been avoided if some discussion of the characters who were to 'appear' had taken place and the readers provided with a schema of the events described in the passage. If such a suggestion was to be supported by empirical evidence it would have obvious implications for the introduction and presentation of 'new' texts - particularly those to be used as 'class-readers' in group situations. The present author did not address the specific question of how such conventional texts are presently introduced by teachers, or how they might be rendered more accessible, but the findings regarding the 'quality' of the Poorer readers' errors on the SELF and PEER-texts suggest such a line of investigation may well be worthwhile in some future study. Such an enquiry might also seek to explore the probable relationship

between text accessibility, oral reading errors and readers' comprehension and recall of texts in line with the suggestions made above (Section 3).

2. Oral reading errors and readers' awareness of their problem-solving strategies. The findings of the present study have illustrated that (judging by their oral reading errors) even the poorest readers in the sample had the ability and the willingness to attend to, and to attempt to synthesise, the graphic, semantic and syntactic cues provided by text. However, it has also been shown that the children, by and large, seemed unaware of their ability to make use of contextual information in attempting to solve 'unknown' words. Whilst the present author did not go on to address the question of whether or not an increase in the children's awareness of the skills they already possessed might have resulted in an increase in their reading proficiency, it seems possible that teachers and their pupils might like to investigate this question as part of a shared learning experience. This might involve pupils recording their own, and/or each others' oral reading errors (on tape) for later review and discussion. They could also be encouraged to work on metalinguistic questionnaires of their own devising,, with appropriate help and guidance from their teachers. Such an exercise need not be extremely time-consuming although it would demand a good deal of forethought, planning and monitoring by the teachers concerned, and a sensitive presentation of the exercise to the pupils involved. Perhaps the time taken by typical 'extraction' sessions, where pupils are given remedial instruction in small groups once or twice a week, could be utilised in this way. At the least such an undertaking would stimulate talk and discussion about reading, and, given that the right ethos was created, would provide a useful forum

for pupils to discover what they 'know', as well as what they only partially understand, or are not always able to put into practice.

An instructional recommendation from the results of such an exercise would be that in subsequent 'reading aloud' sessions teachers would be better placed to discuss with their pupils the nature of their reading errors and to encourage them to take a more analytic view of their own reading behaviour. Additionally, pupils might be encouraged to participate in the decisions concerning exercises to improve particular aspects of their reading proficiency, and in the monitoring of 'where they are' as well as 'where they need to go' in terms of future reading development. An idealistic and radical view of the potential capabilities of Secondary school remedial readers and their teachers perhaps - but given the supportive ethos of the Remedial Department in which the present author's research was conducted - not a wholly unrealistic one.

### 3. 'Self-generated' low-frequency words in classroom instruction.

The methodology employed, and the findings which emerged, from the 'out-of-context' tasks designed by the present author (Chapter 16) may have particular practical value in the classroom. For example, it seems likely that many teachers of remedial readers would be surprised at the number of low-frequency ('difficult') words which the children who participated in the present study were able to generate, comprehend and read. Such words, it may be remembered, were usually related to the children's specialised 'technical' knowledge of the activities in which they were involved: 'bird-breeding'; 'pigeon-racing'; 'horse-riding'; 'fossil-collecting' etc. Teachers whose practice it is to conduct specialised 'phonics sessions' (word-building, blending etc) and who need to put together

a vocabulary of low-frequency words upon which to base individual exercises and small-group word-games, might find it beneficial to make use of their pupils own such (specialised) vocabulary in the collecting and organising of these materials. Cloze-text exercises, where these are felt to be appropriate, might also make use of 'self-generated' sentences in an attempt to ensure some continuity between pupils' 'real-life' language experience and classroom tuition.

Further classroom-based research in the study of the oral reading errors and the metalinguistic knowledge of Secondary school remedial readers.

Further research which extends and refines the approach adopted by the present author may result in increased practical implications for the teaching of remedial readers in the Secondary school. The following practically orientated questions might be considered:

1. How 'accessible' are the subject-based textbooks in use by remedial readers in Secondary school? Do the oral reading errors made by such children on such materials suggest comprehension difficulties? Given the specific nature of the oral reading errors how might such texts be rendered more accessible to pupils as a preparation for their independent use in the classroom?
2. Do the oral reading errors, and the metalinguistic knowledge of Secondary school remedial readers suggest they have difficulties in 'finding their way around' text-books, diagrams, work-sheets, indexes etc. ? What might the

correspondences of the findings of such research be with the work taking place on typographic layout (Hartley 1987) and 'miscue triggers' (Moon 1979)?

3. What is the connection between 'older' remedial readers' metalinguistic knowledge of printed language and their writing? Is an incomplete understanding of the function of sentences, paragraphs and punctuation the prime cause of difficulties encountered in producing well-structured factual accounts and correspondence? Or does the difficulty lie in the transfer of such knowledge to its practical applications in the written medium?

There are doubtless several other practical applications of oral reading error and metalinguistic knowledge research which can be of interest for the teachers of Secondary school remedial readers. At the present time their development awaits the ingenuity of researchers, and the practical expertise of teachers who are prepared to invest time and effort in such investigations. However, despite its limitations the study reported above has made some contribution to our existing limited knowledge of the reading behaviour and thoughts about reading of Secondary school remedial readers. In doing so it has demonstrated that consideration must be given to the nature of the reading materials upon which diagnosis and instruction are based, and that part of this consideration should involve the question of a text's accessibility as well as its linguistic difficulty. It has also shown that a careful analysis of what constitutes a reading error is important in seeking to identify reading strengths and weaknesses. Most important of all perhaps, the study has raised the question of whether or not 'older' remedial

readers might benefit from being helped to 'take stock' of the reading skills and knowledge that they already possess so that these may be developed to their full potential during their remaining years at school.

Finally, it is the author's view that the picture painted here of the reading behaviour and perceptions of reading of 52 eleven year old Secondary school remedial readers is one which is far from depressing. Despite the poor progress of the children two things were perhaps most encouraging in reconsidering the attributes which they brought with them to their participation in the study. One was the quality and the complexity of the skills which they already possessed. The other was the children's tenacity in the face of problems which neither teachers or researchers can claim to fully understand. Such attributes can surely be seen as strong foundations upon which remedial readers can be encouraged to build - attributes which their 'remedial' label must not be allowed to obscure.

APPENDIX A: Pilot work undertaken before the commencement  
of the main study

## APPENDIX A

### PILOT WORK UNDERTAKEN BEFORE THE COMMENCEMENT OF THE MAIN STUDY

Before beginning the main study of the reading behaviour of the 52 eleven year old Secondary school remedial readers it was necessary to conduct pilot research which was aimed to test specifically:

1. The feasibility of producing 'self-generated' reading texts based on the oral language of Secondary school remedial readers.
2. The feasibility of using such texts to analyse the oral reading errors of the children.

The general procedures which were adopted in the main study in terms of developing a rapport with children, helping them to feel at ease despite the presence of the tape-recorder etc. are described in detail in the Methods section of this thesis (Chapter 4). It is, therefore, only the potentially problematic aspects of the production of the 'self-generated' texts, and the subsequent oral reading error analysis which is the focus of attention in reporting details of the pilot work to be described below.

#### The School and the children

The pilot work was conducted in a (Roman Catholic) Secondary school which was situated in the same town as the school chosen for the main study. The school was organised along very similar lines to those of the 'main-study school' and had a Remedial Department which involved 4 specialist staff and included First, Second and Third year pupils. At the time of the pilot work to be described below the



First Year remedial group consisted of a total of 17 pupils. 8 of the children (4 male, 4 female) participated in the pilot study sessions. Their mean chronological age was 11 years 4 months and their mean reading age (Schonell) 8:11. The mean real age/reading age discrepancy score of the 'pilot' children was thus -29 months.

### 1. Testing the feasibility of producing text from speech

Previous work by the present author (Henshaw 1981) had involved Primary school 'average' readers and had shown that it was possible to produce 'self-generated' reading texts which were closely based on children's oral language. A strategy to encourage 'talk' from children during individual interview sessions, had been developed and this had resulted in little difficulty in gaining the confidence of the children and thus the volume of oral language necessary for the production of self-generated reading booklets. Slight editing of the children's speech had been necessary in order to overcome such problems as over-long sentences and irregular grammatical forms such as 'buyed' (for 'bought'). Nevertheless, the final transcripts were felt to be satisfactory for presentation as reading texts - texts which, it could be assumed, provided 'optimum' cognitive and linguistic continuity with the language experience of each child. The texts were reproduced in a type-face and style which resembled that of the 'normal' reading material used by the children.

Despite this earlier work, however, there was no guarantee that 'self-generated' reading texts could be successfully developed from similar taped interview sessions with older remedial pupils. It might be that they were far more inhibited in producing speech for the author than younger 'average' readers. Also, even assuming that

they could be encouraged to provide sufficient 'talk', there was the important question of whether or not their oral language would realistically lend itself to the transformation into the written medium. However, the first question which had to be addressed was concerned with encouraging them to produce speech in a taped interview session.

### Encouraging speech from the children

If self-generated texts of a reasonable length were to be produced it was necessary to obtain a good deal of 'talk' from each of the remedial readers. However, it was felt from the outset of the pilot work that it would be unrealistic (and insensitive) to expect 11 year old remedial pupils to produce 'a speech' at the request of the author. Moreover, the earlier work referred to above, had shown that 5 - 7 year old children could be encouraged to sustain quite long periods of speech if the author maintained a dialogue with them rather than expecting them to produce a monologue. The dialogue was one in which the child was encouraged to do most of the talking. Problems of a child's shyness or embarrassment, or the problem of children simply not knowing what to say, had also been largely overcome in this earlier work by the author suggesting a 'frame' (or direction) for the conversation. The 'talking' sessions with the 8 'pilot' 11 year olds were thus conducted along similar lines to those developed in the earlier work. The author suggested various topics of conversation: 'Pets', 'Hobbies', 'Friends', 'School', in order to put the children at ease. Throughout the sessions open-ended questions and encouraging verbal and non-verbal cues were capitalised upon. The result was the refinement of a successful strategy for encouraging speech from the children. A typical example of the

strategy, transcribed from a taped interview with COLIN is provided below.

AUTHOR: Well Colin - we said we were going to begin by talking about your pets. Are you going to tell me about them?

COLIN: We used to have a dog ..... (Pause)

AUTHOR: Tell me a bit about it. What was its name?

COLIN: Its name was Saddle and it had a black patch on its back ... it was black and white .....(Pause)

AUTHOR: Saddle - that's an unusual name. What made you call it Saddle?

COLIN: We didn't know what name to choose and my Mum said 'Why don't we have Saddle?' because it had a patch like a saddle on its back .... When it grew up the saddle went to one side .....(Pause)

AUTHOR: What kinds of things did Saddle do? Any naughty tricks?

COLIN: He wouldn't go in his kennel and he kept getting hairs all over the place ... I didn't take him a walk because he used to pull me across the ground ... he wasn't big but he was quite strong ... when he saw another dog he pulled me along .....(Pause)

AUTHOR: I think you said you'd had some other pets but that they'd all died ... do you want to say anything about them?

COLIN: We had a goldfish and a budgie ... the goldfish died and my Mum says the budgie died of shock because of my Uncle .....  
(Pause)

AUTHOR: Why - what happened? What did your Uncle do?

COLIN: He couldn't get in so he smashed the window to get in and the budgie died of shock ... it wasn't old ... we'd only had it for about three months ... when I got up my Dad had buried it ..... (Pause)

AUTHOR: Oh dear ... so that's a goldfish and a budgie that died.

COLIN: We used to have a rabbit as well but that died of cold ... we were going to bring it in for the winter but we didn't know it was going to snow that night and it was dead in the morning ... that was about a couple of years ago .....  
(Pause)

AUTHOR: So now you haven't got any pets ... have you got some hobbies though? What do you like to do?

COLIN: I collect badges ... I've got fifty-one ..... (Pause)

AUTHOR: Where do you get them from?

COLIN: I get them from my friends and people give them to me ... I keep them in a box ..... (Pause)

AUTHOR: Any other hobbies? - or is it just your collection of badges?

COLIN: I like to play with cars in the house ... I've got lots of them ..... (Pause)

AUTHOR: O.K. - well, let's talk a bit about school now shall we? You've just moved to this school haven't you?

COLIN: Yes I have ... I went to St. Mary's in Leek before because I live in Leek ... I've got a brother in the Third Year here and another one who's coming here next year ..... (Pause)

AUTHOR: Tell me about this school - is it different from your old school?

COLIN: It's better here because you get more people to play with and at dinner time before you had to go and sit down in the hall but here you can pick your own dinner ..... (Pause)

AUTHOR: What about the lessons here - are they very different?

COLIN: Well ... we didn't have cooking before ... we've just started it here this week ... we've had one lesson but we just talked about it and next week we're going to make small cakes.

As the transcript shows it was relatively easy to encourage speech from COLIN by asking questions or by commenting on what he had said. When he began to be rather reticent (as in the attempted conversation about hobbies) it was possible to switch topics quickly enough to avoid any awkwardness since the possible 'shape' of the conversation had already been agreed prior to the switching on of the tape recorder.

### Transcribing the speech of the children

The strategy described above was successful in encouraging the children to produce the volume of speech necessary for the potential production of self-generated reading passages. However, an important question remained. This was concerned with whether or not the oral language of the children, produced by means of a dialogue, could be successfully transformed into a monologue suitable for transcription into the written medium. Anticipated problems were those of disjointed discourse; incomplete utterances; distortions of grammar and syntax and dialect phrases and forms. Whilst it was not to be expected that all of the oral language produced during the taped interviews could be transcribed absolutely verbatim in order to produce continuous prose it can be seen from the transcript of COLIN's interview above that the typical problems which did occur were by no means as difficult as might have been expected. For example, no dialect phrases or forms were produced by the children and the syntactical aspects of their speech did not pose too much of a problem. It was also a relatively simple matter to punctuate the speech in order to construct sentences and paragraphs. The reason for the relative ease with which their oral language could be transformed into written language no doubt lay in the nature of the

context in which the children's speech was elicited, i.e. a context which (as the children knew) was rather different from that of an ordinary conversation since a) it was tape-recorded, and b) its purpose was to provide oral language which would be preserved in a written form. It was presumably for these reasons that the children, during the interviews, adopted a speech register which was formal enough to render their language produced capable of being transcribed into connected prose. Nevertheless, there were decisions which had to be taken during the transcribing of the speech. These fell into 3 main categories and are described below:

(i) Monologue from dialogue

It was a relatively simple matter to 'edit out' the author's contributions to the tape-recorded conversations thus producing a monologue. For example, the opening exchanges which occurred during COLIN's interview above were edited to produce the following discourse:

We used to have a dog ... it's name was Saddle and it had a black patch on its back ... it was black and white ... we didn't know what name to choose and my Mum said "Why don't we have Saddle?" because it had a patch like a saddle on its back ... when it grew up the saddle went to one side ...

This strategy occasionally meant the deletion of phrases elicited from the children as replies to a question. For example COLIN's 'Yes I have' was deleted (see above) since it was a response to the question asked by the author as a strategy for changing the topic of conversation from 'Hobbies' to 'This school'.

(ii) The punctuation of the speech

Having produced a monologue from the taped dialogue it was necessary to construct sentences and paragraphs from the continuous discourse. This caused few problems since the naturally occurring pauses usually indicated suitable sentence breaks:

We used to have a dog. It's name was Saddle and it had a black patch on its back. It was black and white.

However, occasional problems did arise. Overlong and over-complex sentences would have occurred without the deletion of words such as "and" or "and then" from the discourse of some of the children. For example ADRIAN produced the following 'sentence' whilst talking about his pet cat:

ADRIAN: I've got a cat named Tigger and her favourite place is my Mum's bed and I shut the door so she won't get in and if you stroke her she licks you all the time and puts her paw out so that you can stroke it ...

The 'parcel' of speech was transcribed to form three sentences as follows:

I've got a cat named Tigger and her favourite place is my Mum's bed. I shut the door so she can't get in. If you stroke her she licks you all the time and puts her paw out so that you can stroke it.



Somewhat surprisingly there were no problems of incomplete utterances which could not be structured to form sentences although, as mentioned above, the reason for this was probably concerned with the (rather formalised) speech register adopted by the children during the interviews.

(iii) The structure of the written texts

It was decided that the texts would include headings which could act as 'cues' during the proposed SELF-text reading sessions. COLIN's finished text, (see below) thus included the headings 'Pets', 'Hobbies' and 'This school'. In some texts it was also appropriate to structure the sentences into paragraphs within the topic headings. The texts were reproduced in a type-size which approximated that of the children's 'normal' reading books using an IBM (ORATOR) 'golf ball'. (See Methods Chapter (4) for facsimiles of the texts of IAN and SANDRA). The content and structure of COLIN's edited text is shown on attached sheets.

The pilot work undertaken thus indicated that it would be possible to produce written versions of remedial readers' oral language which could be used as 'self-generated' reading passages. Despite the necessary editing (described above) the resulting texts contained only vocabulary which was familiar to the individual children and of course each child had a comprehensive background knowledge of the subject-matter of the text with which he or she was to be presented. It was felt therefore that such SELF-texts would provide optimum 'accessibility' for remedial readers and, assuming that oral reading errors would occur during the reading sessions, a unique opportunity to examine and compare their use of graphic and

contextual information whilst the 'knotty' variable of background knowledge was held constant for each child. However, a method of recording and categorising such errors as occurred had still to be devised during further 'pilot' sessions.

## 2. The use of self-generated texts in the analysis of oral reading errors.

Having established that it was possible to produce self-generated reading passages from the children's tape-recorded oral language two fundamental questions remained to be investigated through the pilot work. First of all, would any oral reading errors actually occur when the children were asked to read their own orally-produced language? Secondly, how could such errors best be recorded and categorised for later analysis?

Tape-recorded reading sessions with the first 4 of the 8 'pilot' children showed that reading errors did occur when they were presented with the SELF-texts. The mean error-rate was 5.12 errors per hundred words (s.d. 3.2). Having listened to the tape-recorded reading sessions it was decided that the four discrete categories of error used by Biemiller (1970, 1979) could be used to classify the errors and that self-corrections would not be recorded. Biemiller's categories of error were REFUSALS, OMISSIONS, INSERTIONS and SUBSTITUTIONS.

Having decided upon these four error-categories the reading sessions with the 4 remaining 'pilot' children, although they were tape-recorded as before, were used to test the feasibility of the errors being recorded manually by the author on a duplicate script.

Given that the children read very slowly and that the 4 error-types were easily identified it was found that it was possible to mark the errors in pencil above the target words. The notations REF. and OM. were marked above the words which were refused or omitted whilst inserted words, and words which were substituted for text words were written in full at the appropriate points on the author's copy of the text (see COLIN's text below). Given that this manual method of recording errors was found to be feasible it was decided it would be possible to dispense with the burdensome task of tape-recording each of the (156) reading sessions during the main study. A full description of the finer points of the procedure adopted during the reading sessions (author's preamble etc.) is included in the Methods section (Chapter 4) where definitions of the error categories, examples of errors and facsimiles of marked duplicate scripts are also presented. (COLIN's text with errors marked is included below.)

#### Conclusions from the pilot work

It was apparent from the pilot work conducted with 8 Secondary school remedial readers that it was possible to produce self-generated reading texts from tape-recorded interviews using a procedure already developed by the present author during previous work with 'average' readers of Primary school age. The pilot work also showed that the four discrete error-categories used by Biemiller (1970, 1979) in his work with younger readers could be used to classify the errors of 11 year old remedial readers.

COLIN's complete 'self-generated text' (final edited version)  
was as follows:

### Pets

We used to have a dog. It's name was Saddle and it had a black patch on its back. It was black and white. We didn't know what name to choose and my Mum said, "Why don't we have Saddle?" because it had a patch like a saddle on its back. When it grew up the saddle went to one side. He wouldn't go in his kennel and he kept getting hairs all over the place. I didn't take him a walk because he used to pull me across the ground. He wasn't big but he was quite strong. When he saw another dog he pulled me along.

We had a goldfish and a budgie. The goldfish died and my Mum says the budgie died of shock because of my Uncle. He couldn't get in so he smashed the window to get in and the budgie died of shock. It wasn't old. We'd only had it for about three months. When I got up my Dad had buried it.

We used to have a rabbit as well but that died

(continued over)

(COLIN's text continued)

of cold. We were going to bring it in for the winter but we didn't know it was going to snow that night and it was dead in the morning. That was about a couple of years ago.

Hobbies

I collect badges. I've got fifty-one. I get them from friends and people give them to me. I keep them in a box. I like to play with cars in the house. I've got lots of them.

This School

I went to St. Mary's in Leek before because I live in Leek. I've got a brother in the Third Year here and another one who's coming here next year.

It's better here because you get more people to play with. At dinner-time before you had to go and sit down in the hall but here you pick your own dinner.

We didn't have cooking before. We've just started here this week. We've had one lesson but we just talked about it. Next week we're going to make small cakes.

COLIN's 'self-generated text' with his oral reading errors:

Pets

We used to have a dog. It's name was Saddle and it had a black patch on its back. It was black and white. We ~~didn't~~ <sup>did</sup> know what name to ~~choose~~ <sup>call</sup> and my Mum said, "Why don't we have Saddle?" because it had a patch like a saddle on its back. When it ~~grow~~ <sup>go</sup> up the saddle went to one side. He ~~wouldn't~~ <sup>won't</sup> go in his kennel and he kept getting hairs all over the place. ~~I~~ <sup>and</sup> didn't <sup>like</sup> ~~take~~ him a walk because he used to pull me across the ground. He ~~wasn't~~ <sup>was</sup> big but he was ~~quite~~ <sup>REF.</sup> strong. When he saw ~~another~~ <sup>about</sup> dog he pulled me along.

We had a goldfish and a budgie. The goldfish died and my Mum ~~says~~ <sup>said</sup> the budgie died of shock because of my Uncle. He couldn't get in so he smashed the window to get in and the budgie died of shock. It ~~wasn't~~ <sup>was</sup> old. ~~We'd~~ <sup>we</sup> only had it ~~for~~ <sup>DM.</sup> about three months. When I got up my Dad had buried it.

We used to have a rabbit as well but that died

(continued over)

, (COLIN's text continued)

of cold. We were going to bring it in for the winter but we didn't know it was going to snow that night and it was dead in the morning. That was about a couple of years ago.

### Hobbies

I collect badges. <sup>I have</sup> ~~I've~~ got fifty-one. I <sup>most</sup> ~~them~~ get ~~them~~ from friends and people give ~~them~~ <sup>me</sup> to me. I keep them in a box. I like to play <sup>OM.</sup> ~~with~~ cars in the house. I've got lots of them.

### This School

I <sup>want</sup> ~~went~~ to St. Mary's in Leek before because I live in Leek. I've got a brother in the Third Year here and another one who's coming here next year.

It's <sup>best</sup> ~~better~~ <sup>was</sup> ~~here~~ because you get more people to play with. At dinner-time before you had to go and sit down in the hall but <sup>have</sup> ~~here~~ you pick your own dinner.

We didn't have cooking before. We've just started <sup>at</sup> ~~here~~ this week. We've had one <sup>loss</sup> ~~lesson~~ but we just talked about it. Next week <sup>we will</sup> ~~we're~~ going to make small cakes.

APPENDIX B: ANOVA tables and Chi-square values



## APPENDIX B

## ANOVA TABLES AND CHI-SQUARE VALUES

Appendix B provides the ANOVA tables and the Chi-square values which (for the sake of brevity) were omitted from the main body of the thesis.

CHAPTER 6

Re: Table 6.1 SELF-text mean ephw scores for each of the  
three reading ability groups: ANOVA table

SOURCE	DF	MS	F
GRAND TOTAL	52	2.42	
GRAND MEAN	1	2.42	
TREATMENTS	2	98.79	15.36
ERROR	49	6.43	
TOTAL	51		

Re: Table 6.5 Patterns of error and reading ability: results of  
Chi-square tests: SELF-text: Chi-square values  
(d.f.2)

REFUSAL errors x ability:  $\chi^2 = 8.06$   $p < 0.02$

OMISSION errors x ability:  $\chi^2 = 5.28$  N.S.

INSERTION errors x ability:  $\chi^2 = 2.24$  N.S.

SUBSTITUTION errors x ability:  $\chi^2 = 0.81$  N.S.

## CHAPTER 8

Re: Table 8.2 The percentages of SUBSTITUTIONS with some element  
of graphic similarity and semantic and syntactic  
acceptability: SELF-texts. Chi-square values (d.f.2)

Some GRAPHIC SIMILARITY x ability:  $\chi^2 = 14.15$   $p < 0.001$

Some SEMANTIC ACCEPTABILITY x ability: no test possible -

Some SYNTACTIC ACCEPTABILITY x ability: no test possible -

Re: Table 8.3 The percentage of SUBSTITUTIONS with BEGINNING, MIDDLE  
and ENDING graphic similarity to the SELF-text target  
words: Chi-square values (d.f.2)

BEGINNING similarity x ability:  $\chi^2 = 5.92$  N.S.

MIDDLE similarity x ability:  $\chi^2 = 12.89$   $p < 0.01$

ENDING similarity x ability:  $\chi^2 = 0.22$  N.S.

Re: Table 8.5 The percentages of SUBSTITUTIONS semantically acceptable at the WITHIN PASSAGE, WITHIN SENTENCE, PRECEDING and SUCCEEDING levels of analysis: SELF-texts: Chi-square values (d.f.2)

Within PASSAGE	x ability:	$\chi^2 = 1.45$	N.S.
Within SENTENCE	x ability:	$\chi^2 = 3.46$	N.S.
With PRECEDING context	x ability:	No test possible	
With SUCCEEDING context	x ability:	$\chi^2 = 4.33$	N.S.

Re: Table 8.6 The percentage of SUBSTITUTIONS syntactically acceptable at the WITHIN PASSAGE/SENTENCE, PRECEDING and SUCCEEDING levels of analysis: SELF-texts: Chi-square values (d.f.2)

Within PASSAGE/SENTENCE	x ability:	$\chi^2 = 2.10$	N.S.
With PRECEDING context	x ability:	No test possible	
With SUCCEEDING context	x ability:	$\chi^2 = 6.46$	p<0.05

Re: Table 8.7 The percentages of COMBINED-SOURCE and SINGLE-SOURCE SUBSTITUTION errors for each of the three reading ability groups: SELF-text: Chi-square values (d.f.2)

COMBINED-SOURCE errors	x ability:	$\chi^2 = 19.70$	p<0.001
SINGLE-SOURCE errors	x ability:	No test possible -	

CHAPTER 9

Re: Table 9.1 PEER-text: Mean error per hundred words score for each  
of the three reading ability groups: ANOVA table

SOURCE	DF	MS	F
GRAND TOTAL	52	2.85	
GRAND MEAN	1	2.85	
TREATMENTS	2	73.48	9.33
ERROR	49	7.87	
TOTAL	51		

CHAPTER 11

Re: Table 11.3 The percentages of SUBSTITUTION errors with some  
element of graphic similarity and semantic and  
syntactic acceptability: PEER-text  
Chi-square values (d.f.2)

Some GRAPHIC SIMILARITY	x ability:	$\chi^2$	= 3.83	N.S.
Some SEMANTIC ACCEPTABILITY	x ability:	$\chi^2$	= 3.06	N.S.
Some SYNTACTIC ACCEPTABILITY	x ability:	$\chi^2$	= 2.97	N.S.

Re: Table 11.4 The percentages of SUBSTITUTION errors with BEGINNING, MIDDLE and ENDING graphic similarity to the target words: PEER-text. Chi-square values (d.f.2)

BEGINNING	similarity x ability:	$\chi^2 = 1.59$	N.S.
MIDDLE	similarity x ability:	$\chi^2 = 6.58$	p<0.05
ENDING	similarity x ability:	$\chi^2 = 2.07$	N.S.

Re: Table 11.7 The percentage of SUBSTITUTION errors semantically acceptable at the WITHIN PASSAGE, WITHIN SENTENCE PRECEDING and SUCCEEDING levels of analysis: PEER-texts: Chi-square values (d.f.2)

Within PASSAGE	x ability:	$\chi^2 = 1.24$	N.S.
Within SENTENCE	x ability:	$\chi^2 = 4.83$	N.S.
With PRECEDING context	x ability:	$\chi^2 = 3.07$	N.S.
With SUCCEEDING context	x ability:	$\chi^2 = 3.58$	N.S.

Re: Table 11.8 The percentages of SUBSTITUTION errors syntactically acceptable at the WITHIN PASSAGE/SENTENCE, PRECEDING and SUCCEEDING levels of analysis: PEER-texts. Chi-square values (d.f.2)

Within PASSAGE/SENTENCE	x ability:	$\chi^2 = 1.60$	N.S.
With PRECEDING context	x ability:	$\chi^2 = 3.83$	N.S.
With SUCCEEDING context	x ability:	$\chi^2 = 0.11$	N.S.

Re: Table 11.9 The percentages of COMBINED-SOURCE and SINGLE-SOURCE SUBSTITUTION errors for each of the reading ability groups: PEER-text: Chi-square values (d.f.2)

COMBINED-SOURCE errors	x ability:	$\chi^2 = 0.34$	N.S.
SINGLE-SOURCE errors	x ability:	$\chi^2 = 4.62$	N.S.

CHAPTER 12

Re: Table 12.1 CLASS-text: mean ephw score for each of the three ability groups: ANOVA table

SOURCE	DF	MS	F
GRAND TOTAL	52	2.94	
GRAND MEAN	1	2.94	
TREATMENTS	2	154.93	21.02
ERROR	49	7.36	
TOTAL	51		

CHAPTER 14

Re: Table 14.3 The percentage of SUBSTITUTION errors with some element of graphic similarity and semantic and syntactic acceptability: CLASS-text: Chi-square values (d.f.2)

Some GRAPHIC SIMILARITY	x ability:	No test possible	-
Some SEMANTIC ACCEPTABILITY	x ability:	$\chi^2 = 7.07$	p<0.05
Some SYNTACTIC ACCEPTABILITY	x ability:	$\chi^2 = 4.79$	N.S.

Re: Table 14.4 The percentages of SUBSTITUTION errors with BEGINNING, MIDDLE and ENDING graphic similarity with the CLASS-text target words: Chi-square values (d.f.2)

BEGINNING similarity	x ability:	$\chi^2 = 1.34$	N.S.
MIDDLE similarity	x ability:	$\chi^2 = 16.21$	p<0.001
ENDING similarity	x ability:	$\chi^2 = 5.45$	N.S.

## CHAPTER 15

Re: Table 15.1 Mean error scores per hundred words on each type of text: ANOVA table

SOURCE	DF	MS	F
<u>BETWEEN SUBJECTS</u>			
VAR. A (TEXT)	2	313.82	17.36
ERROR A x S	49	18.07	
<u>WITHIN SUBJECTS</u>			
VARIABLE B (ABILITY)	2	4.12	2.29
A x B	4	3.84	2.13
ERROR B x A x S	98	1.80	
TOTAL	155		

Re: Table 15.4 Patterns of error (in percentages) on each type of text (ability groups pooled): Chi-square values (d.f.2)

REFUSAL errors	x text:	$\chi^2 = 7.69$	p<0.05
OMISSION errors	x text:	$\chi^2 = 25.36$	p<0.001
INSERTION errors	x text:	$\chi^2 = 16.78$	p<0.001
SUBSTITUTION errors	x text:	$\chi^2 = 36.66$	p<0.001

Re: Table 15.5 REFUSAL errors: proportional percentage of REFUSAL errors to all errors for each ability group and each type of text: Chi-square values (d.f.2)

SELF-text x ability:	$\chi^2 = 8.06$	p<0.02
PEER-text x ability:	$\chi^2 = 15.76$	p<0.001
CLASS-text x ability:	No test possible	-

Re: Table 15.6 The percentage of OMISSION errors classified as UNACCEPTABLE on each of the three texts: Chi-square value (d.f.2)

UNACCEPTABLE errors x text:	$\chi^2 = 2.73$	N.S.
-----------------------------	-----------------	------

Re: Table 15.7 OMISSION errors: proportional percentages of OMISSION errors to all errors for each ability group and each type of text: Chi-square values (d.f.2)

SELF-text x ability:	$\chi^2 = 5.28$	N.S.
PEER-text x ability:	$\chi^2 = 3.57$	N.S.
CLASS-text x ability:	No test possible	-
ALL-texts x ability:	$\chi^2 = 23.78$	p<0.001



APPENDIX A: Pilot work: the feasibility of producing  
'self-generated' texts

Re: Table 15.8 Percentage of OMISSION errors classified UNACCEPTABLE for each of the three ability groups on each type of text: Chi-square value (d.f.2)

ALL-texts x ability:  $\chi^2 = 6.90$   $p < 0.05$

Re: Table 15.9 The percentages of INSERTION errors classified as UNACCEPTABLE on each of the three texts: Chi-square value (d.f.2)

UNACCEPTABLE errors x text:  $\chi^2 = 14.94$   $p < 0.001$

Re: Table 15.10 INSERTION errors: proportional percentages of INSERTION errors to all errors for each of the three ability groups on each type of text: Chi-square values (d.f.2)

SELF-text x ability:  $\chi^2 = 2.24$  N.S.

PEER-text x ability: No test possible -

CLASS-text x ability:  $\chi^2 = 6.35$   $p < 0.05$

ALL texts x ability:  $\chi^2 = 1.53$  N.S.

Re: Table 15.11 Percentages of INSERTION errors classified UNACCEPTABLE for each of the three ability groups on each type of text: Chi-square value (d.f.2)

ALL-texts x ability:  $\chi^2 = 3.76$  N.S.

Re: Table 15.12 SUBSTITUTION errors: proportional percentages of SUBSTITUTION errors for each of the three ability groups on each type of text: Chi-square values (d.f.2)

SELF-text x ability:  $\chi^2 = 0.81$  N.S.

PEER-text x ability:  $\chi^2 = 1.54$  N.S.

CLASS-text x ability:  $\chi^2 = 14.16$   $p < 0.001$

ALL texts x ability:  $\chi^2 = 4.33$  N.S.

Re: Table 15.14 General reading STRENGTHS as they were apparent  
on each type of text: Chi-square values (d.f.2)

General GRAPHIC SIMILARITY	x text:	$\chi^2$ = 87.11	p<0.001
General SEMANTIC ACCEPTABILITY	x text:	$\chi^2$ = 30.22	p<0.001
General SYNTACTIC ACCEPTABILITY	x text:	$\chi^2$ = 8.18	p<0.02
COMBINED-SOURCE errors	x text:	$\chi^2$ = 54.01	p<0.001
SEMANTIC ACCEPTABILITY 'PRECEDING'	x text:	$\chi^2$ = 19.51	p<0.001
SYNTACTIC ACCEPTABILITY 'PRECEDING'	x text:	$\chi^2$ = 6.35	p=0.05
SEMANTIC ACCEPTABILITY 'SUCCEEDING'	x text:	$\chi^2$ = 10.01	p<0.01
SYNTACTIC ACCEPTABILITY 'SUCCEEDING'	x text:	$\chi^2$ = 0.12	N.S.

Re: Table 15.15 Specific reading WEAKNESSES as they were apparent  
on each type of text: Chi-square values  
d.f.2)

GRAPHIC 'BEGINNING' similarity	x text:	$\chi^2$ = 24.38	p<0.001
GRAPHIC 'ENDING' similarity	x text:	$\chi^2$ = 26.32	p<0.001
SEMANTIC acceptability 'WITHIN PASSAGE'	x text:	$\chi^2$ = 137.30	p<0.001
SEMANTIC acceptability 'WITHIN SENTENCE'	x text:	$\chi^2$ = 22.75	p<0.001
NON-WORDS	x text:	$\chi^2$ = 11.20	p<0.01

Re: Table 15.17 General GRAPHIC similarity and COMBINED-SOURCE errors  
on the SELF-text for each of the three ability groups:  
Chi-square values (d.f.2)

General GRAPHIC similarity	x ability :	$\chi^2$ = 14.15	p<0.001
COMBINED-SOURCE errors	x ability :	$\chi^2$ = 19.70	p<0.001

Re: Table 15.19 Percentages of SUBSTITUTION errors with SEMANTIC  
acceptability at the 'WITHIN PASSAGE' and  
'WITHIN SENTENCE' levels for each ability group:  
CLASS-text : Chi-square values (d.f.2)

Within PASSAGE	x ability :	$\chi^2$ = 17.48	p<0.001
Within SENTENCE	x ability :	$\chi^2$ = 21.22	p<0.001

CHAPTER 16.

Re: Table 16.1      Mean error scores on the 'out-of-context' tasks  
for each of the three ability groups on each type  
of text list: ANOVA table

SOURCE	DF	MS	F
<u>BETWEEN SUBJECTS</u>			
VAR.A (ABILITY)	2	208.47	18.91
ERROR A x S	49	11.01	
<u>WITHIN SUBJECTS</u>			
VAR.B (TEXTS)	2	29.77	11.13
A x B	4	3.12	1.71
ERROR B x A x S	98	2.67	
TOTAL	155		

CHAPTER 18

Re: Table 18.1      "Are you a good reader now?": perceptions of  
reading ability by the children in each ability  
group: Chi-square values (d.f.2)

POSITIVE answers by ability	$= \chi^2 = 3.53$	N.S.
neither POSITIVE/NEGATIVE answers by ability:	$= \chi^2 = 0.34$	N.S.
NEGATIVE answers by ability group:	$= \chi^2 = 2.37$	N.S.

APPENDIX C: Classification schedule for the  
detailed analysis of SUBSTITUTION  
errors



APPENDIX D: The CLASS-text passage and examples  
of SELF and PEER-texts

SHOW DOWN

At their meeting, the club members decided that maybe someone had been causing accidents.

Al thought the police should know about it. He called them. An Eldorado policeman named Officer Stone listened without saying a word.

"Well, what do you think?" Al finally asked.

"It's possible that someone caused the accidents," Officer Stone said. "But there is not much to go on."

"What do you mean, 'Not much to go on'?"

"I mean that your accidents sound like real accidents - nothing more. And anyway, why would anyone want to cause accidents on your track?"

"I don't know," said Al. "But just the same, would you keep an eye on things tonight? I want everything to be all right for the race tomorrow."

"Sure," Officer Stone said. "Don't worry about it. I'll come by every hour or so."

But Al wondered if Officer Stone really would. Al could see that the policeman really didn't believe that there was anything wrong.

After Officer Stone left, they talked about what they could do next.

"We need to find something for sure to show the police that someone has been causing these accidents," Neil said.

"And find it soon," Shari added. "If someone is trying to put us out of business, they will be around again. Before the race tomorrow."

(continued over)



They left the clubhouse and went over to where the bikes were.

"How about checking the bikes again?" Al said.

"Maybe we missed something the first time."

"No," Neil said. "We gave them all a close check. We checked every bike that raced."

"But what about the ones that didn't race?" Al said.

"Maybe some of those were messed with too. Whoever did it couldn't know which bikes would race and which would not."

"It's worth a try," Neil said. "Let's look at Shari's bike."

Shari had planned to race in the last heat. But when Al got hurt, she pulled out so she could be with him.

"Hey, look at this," she said. Shari had her hand on the front wheel of her bike. She was pulling at the spokes. "Look," she said. "My spokes are loose. They were all right yesterday. I know. I just fixed them. And I haven't used my bike since then."

"Somebody loosened them for sure," Neil said.

"Which means you were right, Al," Shari said. "Somebody is out to put us out of business."

SELF-text (example)MICHELLE (Better reader)Pets

I've got a budgie and a dog. The dog's called Rex and he's got white fur. He's little and he's got brown near his ears. My budgie's name is Joey and he's blue. He says, "Hello". Mum just kept on saying "Hello" and he learned to say it. That's all he says. He's got a swing that he jumps up and down on and a ladder that he climbs on. He likes crawling around the bars upside down. He's got a little mirror and a bell. He eats birdseed and some little plants out of the garden.

Rex caught a mouse the other day. Mum let him go out to the toilet and when she let him in he had a mouse. He ate it. We take him down to the Rec. and play ball with him.

This School

I like this school best because at the other school we had to stay in the same classroom for every lesson. At this school we do more lessons - like cooking. At the other school we only did Geography and things like that. We do metalwork here. We're making a little tag and we're going to write our names on it with some letters. First we started off with some paper and wrote our names on it and then we wrote on the metal and trimmed the sides off. Then we drilled some holes in it and wrote our names on it again. The holes are so that you can have it for a key-ring if you want to and put it on your bag. We'll have

to pay five pence,

At first I couldn't find my way around. I  
asked someone where things were. At the other  
school we had to have the dinners that they gave us.  
At this school you can pick your own,

PEER-text (example)

MICHELLE (Better reader)

### Pets

We've got an Alsatian dog, a rabbit and a canary, The dog's got long fur and he's a pedigree but he can't enter shows because he's got a floppy ear, They have to be perfect to go in a show, He's three years old but we only had him last year in October, We had him from someone who wanted to get rid of him because they'd just had a baby, We wanted a dog so we had him.

At first he wouldn't bark at anything, He stays round the back of the pub and keeps guard because the money's down there, He hadn't really been trained to do anything but he can do a lot of things now, He likes children, He knows when it's night-time and he always goes to be fed,

### Living in a pub

My sister's older than me but she doesn't like working behind the bar, She's fifteen this month and I've got a brother who's thirteen, I serve behind the bar, On Saturdays and Sundays you can't get to sleep because they have music on, My Mum's always worked in a pub but we've only lived in one for three years, Before that my Mum and Dad owned a club, When my friends come round we go upstairs, The pub is the Cross Keys at Tean.

MICHELLE (PEER-text continued)

### This School

This school's much bigger because my other school was a little one. My brother and sister told me all about this school. When we came we all went into the hall and sat down. The First Years went to one place and the Second Years to another. Then they read our names out and took us to different classes. We went into our form rooms and got our lockers and cloakroom numbers. Then we had to do our timetable.

Sometimes I stay for dinner and sometimes I go out of school. We do French here and Science. I like French and English.

SELF-text (example)JASON (Fair reader)Pets

I've got eight budgies, one rabbit and one dog. My Dad breeds budgies. We keep them in an aviary. It's like a big house made of wire. You have to have a box for breeding and it has a little slope so that the eggs don't roll about. The mother sits for about two weeks and then the eggs start to hatch out. The most eggs we've ever had is five but most of them didn't hatch out. You have to keep looking in the box but you don't have to handle the eggs or the budgie won't go back to them.

At first the young budgie is all pink with no feathers. It's eyes are shut and it's only got half a beak. First its eyes start to open and its beak starts going red. Then it starts having fluffy feathers. Then its proper feathers come but it can't fly until its baby feathers come out. When it can fly my Dad puts it in a separate cage. My Dad had to sell forty of them but he's keeping the others.

My dog's called Shep and he's a rough collie. He doesn't bite or anything. He plays football and he bites the ball. He used to bite when he was a puppy but we had to teach him not to. First we made him 'stay' and 'sit'. Some other people had him for a year and they didn't teach him anything. At first he kept running round the house and scaring all the budgies.

JASON (SELF-text continued)

This School

There's more variety and more friends at this school. We do Home Economics. We've been cooking and we've made scones. You had two ounces of currants, half an ounce of lard, some flour and an egg. You had to knead the flour and the egg and the other things together and mix the currants in. Then you had to shape them into a round thing and bake them for about fifteen minutes.

JASON (Fair reader)Hobbies

I play football for Green Park. We play on Sundays but we haven't won a match yet. The manager comes from Tean but most of the players live in Cheadle. It's the under-twelves team. I haven't been in it all that long. The closest we got to winning was three goals to six. I play left-wing or left-back. A winger stays down the wings near the touch-line. He scores goals and passes so that other people can score. The left-back has to get the ball up to the front and defend the goals to help the goalie. I've played mid-field. Mid-fielders do more or less the same as defenders but they can get in and score goals.

We play teams all over Stoke-on-Trent and we've played Tean and Kingsley. I was in the school football team but I was only a sub. You had to do training at dinner time and they picked the team. Some teachers watched us to see who were the good ones. I could have gone on if somebody was injured.

Greyhounds

We race them at Chesterton but now they don't have a permit. Sometimes we buy rabbits and skin them. We keep the skin to get the dogs used to the smell of it. We put the rabbit-skin on a string and onto a pole and then swing it round and round. Then we let the dog chase round the pole to train it.



JASON (PEER-text continued)

You take it for grading at the track. First it runs 'solo' and then you put it in with two dogs. You don't start them all that young because their legs aren't strong when they're young and they can't turn corners. You can't keep them indoors because they make a mess everywhere so we have to keep them in sheds. We did have five dogs and my Dad kept two down at his mate's and we kept three. You put bets on at the races and sometimes you get trophies. We've got four trophies.

SELF-text (example)ROBERT (Poorer reader)My dog

He's called Ben and he's a black labrador. He's about sixteen months old. He used to run about and try to bite me. He chewed my Dad's sock and he chews mine sometimes when I put them next to my bed ready for the morning. He comes in and gets on the bed in the middle of the night. Then he gets my socks and runs downstairs.

He can fetch the paper and 'sit'. He eats Chum but sometimes he doesn't like it. If he doesn't eat it for about two days we throw it away and give him some more. He's very greedy. We give him a slice of toast in the mornings. Then we sit at the table to eat our toast but he doesn't eat his - he comes in and begs from us. When we've given him some and ours is all gone he goes and eats his own.

This School

I went to Cheadle County primary. I got a bit lost on the first day here. It's a lot harder work here. We didn't have cooking or sewing at the other school. We had Science but it was all about leaves and things like that. We've been boiling water here. We've got this little topic-book and you have to boil water to see what temperature it goes to.

ROBERT (SELF-text continued)

We've boiled oil and we've been weighing things.

The dinners here are a lot better than at the other school. At the other school you had to line up outside until the dinner ladies had the tables ready. Then you went in and sat down. You used to get carrots. You used to pay about two pounds and fifty pence for a week but at this school you pay when you get your dinner. They've started a cafeteria at the other school now.

PEER-text (example)

ROBERT (Poorer reader)

### Pets

I've got six cats and two dogs. The cat's had kittens twice. We keep them in the garage. Sometimes they go out on the road and we have to fetch them back. One lot of kittens is eight weeks' old and the others are one week old. They've both got the same mother. It costs about five pounds to keep them all. You give them a plate full of milk and put them round it and then take the mother away. They make a noise. We've got a big box in the garage where they sleep. It's polystyrene and the mother can get out but the kittens can't. My Dad wanted to drown the kittens but Mum said, "No".

Our Alsatian doesn't like cats. We've only had it about a month and it had been neglected. Its fur came off and you could see its skin. We had it from the Potteries. It was tied up to a concrete-mixer and it kept rubbing itself on it. It's ten months old.

It bit somebody because they walked in the house. They tried to run off when they saw it. It went after them and bit them. We know them and we didn't have to have it put down because they didn't say anything. They had to have a tetanus injection and two stitches. We play with the dog and tease it.

### Hobbies

We go down to the scrap-yard. I had a motor bike when I was four. I've taken the engine out of one and taken it to bits and then put it back together again. Now I've got a Honda 80.

ROBERT (PEER-text continued)

I ride it up our private road. Somebody gave it to me. I wanted to go scrambling but my Mum and Dad wouldn't let me. They have scrambling on a Saturday or a Sunday once every fortnight. My Mum's not bothered about it being expensive, she's worried about me falling off. You have to have scrambling boots, proper leather overalls and a full-face helmet and gloves. We went to price the boots and they were a hundred pounds.

## APPENDIX E: List of tables and figures

## LIST OF TABLES AND FIGURES

Tables

2.1	Levels of investigation which might be pursued by oral reading error research	34
4.1	The sequence and nature of the nine sessions	131
4.2	Examples of 'list' words previously read correctly: SELF-texts	153
4.3	Examples of 'list' words previously read correctly: PEER-texts	155
4.4	Examples of 'list' words previously read correctly: CLASS-text	159
5.1	Mean reading ages and school reading groups	171
5.2	Mean reading 'discrepancy scores' and school reading groups	172
5.3	Mean reading ages (years and months) and discrepancy scores (months) of the Better, Fair and Poorer reading ability groups	173
5.4	School groups and (constructed) ability groups	173
6.1	SELF-text: mean ephw scores for each of the reading ability groups	192
6.2	Results of the post hoc Scheffe tests: mean error per hundred words on the SELF-texts	193
6.3	The distribution of errors on the SELF-text (raw data)	194
6.4	The proportion of errors falling into the REFUSAL, OMISSION, INSERTION and SUBSTITUTION categories for each of the three ability groups: SELF-texts	194
6.5	Patterns of error and reading ability: results of Chi-square tests: SELF-texts	197
7.1	Words which provoked REFUSAL errors on the SELF-texts	202
7.2	The acceptability of OMISSION errors on the SELF-texts	206
7.3	Consistently ACCEPTABLE, marginally acceptable and UNACCEPTABLE OMISSION errors on the SELF-texts	212
7.4	ACCEPTABLE and UNACCEPTABLE INSERTION errors on the SELF-texts for each of the ability groups	216

7.5	CRAIG's UNACCEPTABLE responses to elision-form words	223
8.1	The number of non-word SUBSTITUTION errors and the number of readers responsible in each of the three ability groups: SELF-texts	230
8.2	Non-words produced during the SELF-text reading performances	231
8.3	The percentages of SUBSTITUTIONS with some element of graphic similarity and semantic and syntactic acceptability: SELF-texts	233
8.4	The percentage of SUBSTITUTIONS with BEGINNING, MIDDLE and ENDING graphic similarity to the SELF-text target words	235
8.5	SUBSTITUTIONS with 'beginning' and 'middle' graphic similarity but no 'ending' similarity	238
8.6	The percentages of SUBSTITUTIONS semantically acceptable at the WITHIN PASSAGE, WITHIN SENTENCE, PRECEDING and SUCCEEDING levels of analysis: SELF-texts	240
8.7	The percentage of SUBSTITUTIONS syntactically acceptable at the WITHIN PASSAGE/SENTENCE, PRECEDING and SUCCEEDING levels of analysis: SELF-texts	246
8.8	The percentages of COMBINED-SOURCE and SINGLE-SOURCE SUBSTITUTION errors for each of the reading ability groups: SELF-texts	248
8.9	SINGLE-SOURCE SUBSTITUTION errors on the SELF-texts: percentages of 'graphic' and 'contextual' errors	250
9.1	PEER-text: Mean error per hundred words score for each of the three ability groups	258
9.2	Results of the post hoc Scheffe tests: mean error per hundred words on the PEER-texts	258
9.3	The distribution of errors on the PEER-texts (raw data)	259
9.4	The proportion of errors falling into the REFUSAL, OMISSION, INSERTION and SUBSTITUTION categories for each of the three ability groups: PEER-texts	259
9.5	Patterns of error and reading ability: results of the Chi-square tests: PEER-texts	260
10.1	Words which provoked REFUSAL errors on the PEER-texts	263



10.2	The acceptability of OMISSION errors on the PEER-texts	266
10.3	Consistently ACCEPTABLE, marginally acceptable and UNACCEPTABLE OMISSION errors on the PEER-texts	271
10.4	ACCEPTABLE and UNACCEPTABLE INSERTION errors on the PEER-text for each of the ability groups	273
11.1	The number of non-word SUBSTITUTION errors and the number of readers involved in each of the three ability groups: PEER-texts	279
11.2	NON-WORDS produced during the PEER-text reading performances	281
11.3	The percentages of SUBSTITUTIONS with some element of graphic similarity and semantic and syntactic acceptability: PEER-texts	288
11.4	The percentages of SUBSTITUTIONS with BEGINNING, MIDDLE and ENDING graphic similarity to the PEER-text target words	289
11.5	THERESA's SUBSTITUTION errors: illustrating the general lack of graphic ENDING similarity	291
11.6	ROBERT's SUBSTITUTION errors: illustrating the general lack of graphic ENDING similarity	292
11.7	The percentages of SUBSTITUTIONS semantically acceptable at the WITHIN PASSAGE, WITHIN SENTENCE, PRECEDING and SUCCEEDING levels of analysis: PEER-texts	293
11.8	The percentages of SUBSTITUTIONS syntactically acceptable at the WITHIN PASSAGE/SENTENCE, PRECEDING and SUCCEEDING levels of analysis: PEER-texts	297
11.9	The percentages of COMBINED-SOURCE and SINGLE-SOURCE SUBSTITUTION errors for each of the reading ability groups: PEER-texts	299
11.10	SINGLE-SOURCE SUBSTITUTION errors on the PEER-texts: percentages of 'graphic' and 'contextual' errors	300
12.1	CLASS-text: mean error per hundred words score for each of the three ability groups	307
12.2	Results of the post hoc Scheffe tests: mean error per hundred words on the CLASS-text	308
12.3	The distribution of errors on the CLASS-text (raw data)	309

12.4	The proportion of errors falling into the REFUSAL, OMISSION, INSERTION and SUBSTITUTION categories for each of the ability groups: CLASS-text	309
	Pattern of error and reading ability: results of Chi-square tests: CLASS-text	311
12.6	Mean reading ages (Schonell) for the three ability groups at the time of the SELF-text and the CLASS-text reading sessions	312
12.7	Mean real age/reading age discrepancy scores: SELF-text (October) and CLASS-text (May)	313
13.1	Words which provoked REFUSAL errors on the CLASS-text	315
13.2	The acceptability of OMISSION errors on the CLASS-text	321
13.3	ACCEPTABLE and UNACCEPTABLE INSERTION errors on the CLASS-text for each of the ability groups	336
14.1	The number of non-word SUBSTITUTION errors and the number of readers involved in each of the three ability groups: CLASS-text	342
14.2	NON-WORDS produced during the CLASS-text reading performances	343
14.3	The percentage of SUBSTITUTIONS with some element of graphic similarity and semantic and syntactic acceptability: CLASS-text	346
14.4	The percentages of SUBSTITUTIONS with BEGINNING, MIDDLE and ENDING graphic similarity with the CLASS-text target words	348
14.5	MICHELLE's SUBSTITUTION errors: illustrating the general lack of graphic ENDING similarity	350
14.6	LEE's SUBSTITUTION errors: illustrating the general lack of graphic ENGING similarity	351
14.7	The percentages of SUBSTITUTIONS semantically acceptable at the WITHIN PASSAGE, WITHIN SENTENCE, PRECEDING and SUCCEEDING levels of analysis: CLASS-text	353
14.8	The percentages of SUBSTITUTIONS syntactically acceptable at the WITHIN PASSAGE/SENTENCE, PRECEDING and SUCCEEDING levels of analysis: CLASS-text	358
14.9	The percentages of COMBINED-SOURCE and SINGLE-SOURCE SUBSTITUTION errors for each of the reading ability groups: CLASS-text	360

14.10	SINGLE-SOURCE SUBSTITUTION errors on the CLASS-text: percentages of 'graphic' and 'contextual' errors	361
14.11	The percentages of SINGLE-SOURCE and COMBINED-SOURCE SUBSTITUTION errors on the SELF, PEER and CLASS-texts	363
14.12	The percentages of SINGLE-SOURCE and COMBINED-SOURCE SUBSTITUTION errors for each of the three ability groups (texts pooled)	364
14.13	SINGLE-SOURCE SUBSTITUTION errors on the SELF, PEER and CLASS-texts: 'graphic' and 'contextual' errors	366
14.14	SINGLE-SOURCE errors (texts pooled): the percentages of 'graphic' and 'contextual' errors for each of the three ability groups	367
15.1	Mean errors per hundred words on each type of text for each ability group	378
15.2	Results of the Scheffe tests comparison of the overall mean error per hundred words scores of the Better, Fair and Poorer readers	379
15.3	The overall pattern of the total number of oral reading errors recorded (texts pooled)	381
15.4	Patterns of error (in percentages) on each type of text (ability groups pooled)	383
15.5	REFUSAL errors: proportional percentage of REFUSAL errors to all errors for each ability group and type of text	385
15.6	The percentage of OMISSION errors classified as 'UNACCEPTABLE' on each of the three texts	388
15.7	OMISSION errors: proportional percentages of OMISSION errors to all errors for each ability group and each type of text	389
15.8	Percentage of OMISSION errors classified as 'UNACCEPTABLE' for each of the three ability groups on each type of text	391
15.9	The percentages of INSERTION errors classified as 'UNACCEPTABLE' on each of the three texts	393
15.10	INSERTION errors: proportional percentages of INSERTION errors to all errors for each of the three ability groups on each type of text	395
15.11	Percentages of INSERTION errors classified 'UNACCEPTABLE' for each of the three ability groups on each type of text	396

15.12	SUBSTITUTION errors: proportional percentages of SUBSTITUTION errors to all errors for each of the three ability groups on each type of text	399
15.13	The 'general reading strengths' indicated by the analysis of the SUBSTITUTION errors made on all texts	412
15.14	The 'specific reading weaknesses' indicated by the SUBSTITUTION error analysis	416
15.15.	General reading STRENGTHS as they were apparent on each type of text	420
15.16	Specific reading WEAKNESSES as they were apparent on each type of text	422
15.17	General STRENGTHS: 'WORST' performances on each type of text for the three ability groups	425
15.18	General GRAPHIC similarity and COMBINED-SOURCE errors on the SELF-text for each of the three ability groups	427
15.19	Specific WEAKNESSES: 'WORST' performances on each type of text for the three ability groups	428
15.20	Reading STRENGTHS and WEAKNESSES: instances where the performance of the Poorer readers was equivalent to that of the Better and Fair groups	430
16.1	Mean error scores on the 'out-of-context' tasks for each of the three ability groups on each type of text-list	437
18.1	'Are you a good reader now?': perceptions of reading ability by the children in each ability group	463
18.2	The mean reading ages (Schonell) of children giving POSITIVE, NEITHER POSITIVE/NEGATIVE and NEGATIVE responses to the question 'Are you a good reader now?'	465
18.3	The mean chronological age/reading age discrepancy scores of children giving POSITIVE, NEITHER POSITIVE/NEGATIVE and NEGATIVE responses to the question 'Are you a good reader now?'	466
18.4	The percentages of children in each of the three ability groups mentioning each of the five aspects of reading concerned with their distinction between 'good' and 'poor' readers	470
19.1	Aspects of EASY and DIFFICULT texts: the percentage of responses in each category from the Better, Fair and Poorer readers	485

19.2	Percentages of children in each of the three ability groups mentioning WORD LENGTH and/or WORD DIFFICULTY in connection with DIFFICULT/EASY reading material	487
20.1	Responses to the question 'What do you do if you don't know a word?' (by ability group)	502
20.2	The number of children in each of the three reading ability groups who suggested single or combined reading strategies for solving unknown words	516
20.3	The number of children in each reading ability group who suggested one or two problem-solving strategies compared with those who suggested three or four strategies	517
21.1	Responses to the question 'What are words made of?': ability groups	524
21.2	'Other responses' to the question 'What are words made of?' from the two Fair and seven Poorer readers	525
21.3	The number and percentage of children in each of the three reading groups producing the terms FULLSTOP, COMMA etc. from their own vocabulary	547
21.4	FULLSTOP: Appropriate, Inappropriate and 'Don't know' responses by the Better, Fair and Poorer readers	548
21.5	COMMA: Appropriate, Inappropriate and 'Don't know' responses by the Better, Fair and Poorer readers	549
21.6	QUESTION MARK: Appropriate, Inappropriate and 'Don't know' responses by the Better, Fair and Poorer readers	550
21.7	SPEECH MARKS: Appropriate, Inappropriate and 'Don't know' responses by the Better, Fair and Poorer readers	551
21.8	APOSTROPHE: Appropriate, Inappropriate and 'Don't know' responses by the Better, Fair and Poorer readers	552
21.9	The QUALITATIVE nature of Appropriate APOSTROPHE responses from the Better, Fair and Poorer readers	553
22.1	The purposes of reading: the categorisation of the responses of the children from each of the three reading ability groups	561
22.2	Comparison of the mean real age/reading age discrepancy scores of children mentioning and not mentioning PLEASURE as a purpose of reading	564

22.3	An overview of the children's comments relating to reading for INFORMATION	567
------	--	-----

### Figures

4.1	IAN: excerpt from SELF-text	137
4.2	ROSEMARY: excerpt from SELF.-TEXT	138
4.3	IAN: excerpt from SELF-text (errors marked)	147
4.4	ROSEMARY: excerpt from SELF-text (errors marked)	148
4.5	Excerpt from the CLASS-text	158
5.1	The detailed analysis of the SUBSTITUTION errors	177
18.1	The children's perceptions of their own reading ability	461
18.2	Knowing whether or not you're a GOOD reader: the children's perceptions of the criteria involved	468
18.3	The percentages of children mentioning each of the five aspects of reading concerned with their distinction between GOOD and POOR readers	469
18.4	The children's concepts of GOOD and POOR readers	479
19.1	EASY and DIFFICULT books: the children's perceptions of the criteria involved	483
19.2	The percentages of children mentioning each of the five aspects of text concerned with their distinction between EASY and DIFFICULT texts	484
20.1	The children's suggested strategies for solving UNKNOWN words	500
21.1	Categories of response to the question 'What are words made of?'	523
21.2	The percentages of children able to name the five PUNCTUATION symbols	529
21.3	The percentages of children giving appropriate answers to the questions concerning the function of the five PUNCTUATION symbols	531
22.1	The children's perceptions of the PURPOSES of reading	558
22.2	The percentages of children mentioning each of the perceived PURPOSES of reading	559

## REFERENCES

- ALLEN, P.D. and WATSON, D.J. (1976). 'Findings of research in miscue analysis: Classroom implications' Urbana, IL: ERIC, NCTE; Cited by LEU, D.J. (1982) below.
- ARNOLD, Helen (1982). 'Talking: the way into reading?' Reading 16, (2), 79-84.
- ATHEY, I. (1983). 'Thinking and Experience: the cognitive base for language experience'. In PARKER, R.P. and DAVIS, F.A. (Eds.) Developing Literacy: Young children's use of language; Newark, D.E. International Reading Association.
- AU, K.H. (1977). 'Analysing oral reading errors to improve instruction'. The Reading Teacher, 31, 46-49.
- BARR, R. (1972). 'The Influence of the Instructional Conditions on Word Recognition Errors.' Reading Research Quarterly. 7, 509-529.
- BARR, R. (1974). 'The effect of instruction on pupil reading strategies.' Reading Research Quarterly, (1974-75) Vol. X/4, 555-582.
- BEEBE, M. J. (1980). 'The effect of different types of substitution miscues on reading.' Reading Research Quarterly. (1980), 15, (3), 324-336.
- BIEMILLER, A. (1970) 'The Development of the Use of Graphic and Contextual Information as Children Learn to Read', Reading Research Quarterly, 6, 75-96.
- BIEMILLER, A. (1979). 'Changes in the use of graphic and contextual information as functions of passage difficulty and reading achievement level'. J. of Reading Behaviour. (1979), 11, (4) 307-318.
- BLANK, M. (1985). 'Language and School Failure: Some Speculations about the Relationship between Oral and Written Language' in: CLARK, M.M. (1985), (Ed.), New Directions in the Study of Reading, London: Falmer Press.
- BROWN, A. (1985). 'Young children's attention to textual context when reading'. Reading, (1985). 19, (1) 46-50.
- BURKE, C.L. (1969). 'A psycholinguistic description of grammatical restructurings in the oral reading of a selected group of middle school children'. Unpublished doctoral dissertation, Wayne State University. Cited by WIXSON (1979) below.
- BURKE, E. (1976). 'A developmental study of children's reading strategies'. Educ. Review, 29, 1, 30-46.
- BURKE, E. (1977). 'The probing of children's reading strategies'. Educational Studies, Vol. 3, 2, 137-143.

- CAMPBELL, A. (1978). Diamonds in the Dirt, London: John Murray.
- CAMPBELL, R. (1981). 'An approach to analysing teacher verbal moves in hearing children read'. J. of Res. in Reading (1981), 4, 1.
- CANNEY, G. & WINOGRAD, P. (1980). 'Schemata for reading and reading comprehension'. Paper presented at the Annual Meeting of the American Educational Research Association, Boston, April. Cited by Moore (1982).
- CLARK, M.M. (1976) Young Fluent Readers. London: Heinemann Educational Books.
- CLARK, M.M. (1985) (Ed.) New Directions in the Study of Reading. London: The Falmer Press.
- CLAY, M.M. (1968), 'A syntactic analysis of reading errors'. Journal of Verbal Learning and Verbal Behaviour, Vol. 7, 133-139.
- CLAY, M.M. (1969) 'Reading errors and self-correction behaviour'. Br. J. of Educ. Psychol., 39, 47-56.
- CLAY, M.M. (1972) Reading: The Patterning of Complex Behaviour. Auckland: Heinemann Educational.
- COHEN, A.S. (1974) 'Oral reading errors of first grade children taught by a code emphasis approach'. Reading Res. Quarterly, (1974-5) Vol. X/4. 616-650.
- D'ANGELO, K. (1981) 'Correction behaviour of good and poor readers'. Reading World, 21, 123-129.
- DONALDSON, M. and REID, J. (1985) 'Language skills and reading: a developmental perspective'. In: CLARK, M.M. (Ed.) (1985) New Directions in the Study of Reading, London: Falmer Press.
- DOWNING, J. (1969) 'How children think about reading', The Reading Teacher, 23, 217-230.
- DOWNING, J. (1970) 'Children's concepts of language in learning to read'. Educational Research, 12, 106-112.
- DOWNING, J. (1974) 'The Child's conception of "a word".' Reading Research Quarterly, 9, 568-582.
- DOWNING, J. (1979) Reading and Reasoning, London: Chambers.
- DUFFEY, G.B. and DURRELL, D.D. (1935) 'Third Grade difficulties in oral reading', Education, 56, 37-40. Cited in Weber (1968).
- EHRI, L. (1979) 'Linguistic insight: threshold of reading acquisition'. In: WALLER, T. & McKINNON, G. (Eds). Reading Research: Advances in Theory and Practice Vol. (1) New York: Academic Press.
- EHRI, L.C. and WILCE, L.C. (1980) 'Do beginners learn to read function words better in sentences or in lists?' Reading Research Quarterly, 16, 452-76.



- FRANCIS, H. (1977) 'Reading abilities and disabilities: children's strategies in learning to read.' Br.J.Ed.Psych. 47, 117-125.
- GILMORE, J.V. (1947) 'The relation between certain oral reading habits and oral and silent reading comprehension', Unpublished Doctoral Dissertation, Harvard University. Cited in Weber, R.M. (1968).
- GOODMAN, K.S. (1967) 'Reading: a psycholinguistic guessing game'. J. Reading Specialist, 4, 126-135.
- GOODMAN, K.S. (1969) 'Analysis of oral reading miscues: applied psycholinguistics.' Reading Res. Quarterly, 5, 9-30.
- GOODMAN, K.S. (1973) 'Miscues: windows on the reading process.' In Goodman, K.S. (Ed.), Miscue Analysis, Illinois: ERIC.
- GOODMAN K.S. (1976) 'Behind the eye: What happens in reading'. In: Singer, H. & Ruddell, R.B. (Eds.) Theoretical models and processes of reading, Newark: DE IRA.
- GOODMAN, Yetta M. (1970) 'Using Children's Miscues for new teaching strategies', Reading Teacher, 23, 5, 455-459.
- GOODMAN, K.S. & Burke, C.L. (1968) 'Study of children's behaviour while reading orally'. (Final report of U.S. Office of Education Project No. 5435). Detroit: Wayne State University. Cited by WEBER (19970).
- GOODMAN, K.S. and BURKE, C. (1973) Theoretically Based Studies of Patterns of Miscues in Oral Reading Performance, Final Report. Detroit: Wayne State University. Cited in Harding, L.M. et al, (1985).
- HARDING, L.M., BEECH, J.R. and SNEDDON, W. (1985) 'The changing pattern of reading errors and reading style from 5 - 11 years of age'. Br.J. of Ed. Psychol. (1985), 55, 45-52.
- HARTLEY, J. (1985) Designing Instructional Text, 2nd Edition, London: Kogan Page.
- HENSHAW, A. (1981) 'The speaking-reading gap', Unpublished research report; copies available from the author: Centre for Health Sciences, The Polytechnic Wolverhampton, West Midlands.
- HENSHAW, A. (1983) 'The Fullstop', The Times Educational Supplement; 15:7:83.
- HOLDEN, M. and MCGINITIE, W. (1972) 'Children's conceptions of word boundaries in speech and print'. Journal of Educational Psychology, 63, 551-557.
- HOOD, J. and KENDALL J.R. (1975) 'A qualitative analysis of oral reading errors of reflective and impulsive second graders: a follow-up study'. J. of Reading Behaviour, (1975), 7, (3), 269-281

- HOOD, J. (1978) 'Is miscue analysis practical for teachers?' Reading Teacher (1978) Vol. 32, 3, pp. 260-266.
- HUDSON, J.A. and HAWORTH, J. (1983) 'Dimensions of word recognition', Reading, 17, (2) pp. 87-94.
- HUEY, E.B. (1908) The Psychology and Pedagogy of Reading, New York: Macmillan.
- ILG, F.L. and AMES, L.B. (1950) 'Developmental trends in reading behaviour'. Journal of Genetic Psychology, Vol. 76, pp 291-312.
- JOHNS, J. and ELLIS, D. (1976) 'Reading: children tell it like it is'. Reading World, 16, 115-28.
- JOHNSON, R.A. and KRESS, M.S. (1965) Informal Reading Inventories, Newark, Delaware: IRA.
- JUEL, C. (1980) 'Comparison of word identification strategies with varying context, word type and reader skill'. Reading Res. Quarterly, (1980). Vol. 17, pp. 358-376.
- KEITHLY, G. (1974) 'The use of a child's own language to test reading achievement in First Grade'; unpublished Master's Thesis, cited in RESNICK, L. and WEAVER, P. (Eds.) 1979); Theory and Practice in Early Reading: Vol. 1; Hillsdale, New Jersey: Lawrence Erlbaum Associates.
- KIBBY, M.W. (1979) 'Passage readability affects the oral reading strategies of disabled readers'. The Reading Teacher, 32, Part 4, 390-395.
- KOLERS, P.A. (1970) 'Three Stages of Reading; in LEVIN, H. and WILLIAMS, J.P. (Eds.) (1970); Basic Studies on Reading; New York: Basic Books.
- KOLERS, P.A. (1973) 'Three Stages of Reading' in SMITH, F. (Ed.) (1973); Psycholinguistics and Reading; New York: Holt, Rinehart and Winston.
- KOLERS, P.A. (1975) 'Pattern-analyzing disability in poor readers'; Developmental Psychology, 11, 282-290.
- LA BERGE, D. and SAMUELS, S.J. (1974) 'Toward a theory of automatic information processing in reading'; Cognitive Psychology; 6, 293-323.
- LEU, D.J. (1982) 'Oral reading error analysis: a critical review of research and application'. Reading Research Quarterly, (1982), Vol. 17, 420-437.
- LUNDBERG, I, and TORNEUS, M. (1978) 'Non-readers' awareness of the basic relationship between spoken and written words'. Journal of Experimental Child Psychology, 25, 202-212.
- MacLEAN, M. (1981) 'Qualitative insights on silent and oral reading'. In: CHAPMAN, L. John (Ed.) The Reader and the Text, 115-123, London: Heineman Educational Books.

- MADDEN, M. and PRATT, M. (1941) 'An oral reading survey as a teaching aid'. Elementary English Review, Vol. 18, 122-126.
- MALMQUIST, E. (1958) Factors related to reading disabilities in the first grade of the elementary school; Cited by WEBER, R. (1968) below.
- MARTIN, T. (1986) 'Leslie: a reading failure talks about failing'. Reading, 20, 1, 43-52.
- MATTINGLY, I.G. (1972) 'Reading the Linguistic Process, and Linguistic Awareness' in KAVANAGH, J.F. and MATTINGLY, I.G. (Eds.) (1972) Language by Ear and Eye. Massachusetts: MIT Press.
- MENOSKY, D.M. (1971) 'A psycholinguistic description of oral reading miscues generated during the reading of varying portions of text by selected readers from grades two, four, six and eight'; Cited by WIXSON, K. (1979) below.
- MINGAY, P. (1977) 'An analysis of the effects of age, reading ability and text difficulty upon children's oral reading errors.' Unpublished M.A. Thesis; University of Lancaster.
- MOON, L. (1979a) 'Categorization of miscues arising from textual weakness'. In: THACKRAY, D. (Ed.) (1979) Growth in Reading. London: Ward Lock Educational. 135-146.
- MOON, C. (1980) 'Don't interrupt'; Child Education, 57, 3, 25.
- MOORE, P.J. (1982) 'Children's metacognitive knowledge about reading: a selected review.' Educational Research, Vol. 24, 2, 120-128.
- MOORE, P.J. (1983) 'Aspects of metacognitive knowledge about reading'. J. Res. in Reading, 6, (2), 87-102.
- MOORE, P. and KIRBY, J. (1981) 'Metacognition and reading performance: a replication and extension of Myers and Paris in an Australian context.' Educational Enquiry, 4, 1, 18-29.
- MURRAY, L.A. and MALIPHANT, R. (1982) 'Developmental aspects of the use of linguistic and graphemic information during reading'. Brit. J. of Ed. Psych. 52, 155-169.
- MYERS, M. and PARIS, S. (1978) 'Children's metacognitive knowledge about reading'. Journal of Educational Psychology, 70, 680-690.
- NEALE, M.D. (1966) Neale Analysis of Reading Ability, Macmillan.
- NEWMAN, H. (1978) 'Oral reading miscue analysis is good but not complete'. Reading Teacher, 31, (3) 883-885.
- PAGE, W.D. (1970) 'A psycholinguistic description of patterns of miscues generated by a proficient reader in second grade, an average reader in fourth grade, and an average reader in sixth grade encountering basal reader selections ranging from pre-primer to sixth grade'. Cited by Wixson, K. (1979) below.

- PAPANDROPOULOU, J. and SINCLAIR, H. (1974) 'What is a word? Experimental study of children's ideas on grammar.' Human Development, 17, 241-58.
- POTTER, F. N. (1980) 'Miscue Analysis: A cautionary note'. J. of Research in Reading, (1980), Vol. 3, 116-128.
- POTTER, F.N. (1981) 'Miscue Analysis: some problems of interpretation and some possible solutions.' Reading, 15, 21-26.
- POTTER, F. N. (1981) 'The use made of the succeeding linguistic context by good and poor readers.' In: CHAPMAN, L. John, (Ed.) The Reader and the Text. 106-114, London: Heinemann Ed. Books.
- POTTER, F.N. (1982) 'The use of the linguistic context: Do good and poor readers use different strategies?' British Journal of Educational Psychology, 52, 16-23.
- POTTER, F.N. (1983) 'Oral reading errors that occur even when a word has been identified correctly. Implications for miscue analysis.' Conference paper B.P.S. 1983 (Revised)
- POTTER, F.N. (1983) 'The reader's use of context: some implications for teaching.' Reading, 17, (1), 37-42.
- POTTER, F.N. (1983) 'Teaching children to use the linguistic context more effectively.' Reading, 17, 95-104.
- POTTER, F.N. (1987) 'Oral reading errors: Part of speech effects and their theoretical and practical implications'. J. Res. in Reading, 10,1, 43-56.
- REID, J.F. (1966) 'Learning to think about reading'. Educational Research, 9, 56-62.
- REID, J.F. (1972) 'Children's comprehension of syntactic structures found in some extension readers' in: REID, J.F. (Ed.) Reading Problems and Practices, London: Ward Lock.
- ROUSCH, P.D. (1972) 'A psycholinguistic investigation into the relationship between prior conceptual knowledge, oral reading miscues, silent reading, and post-reading performance'; cited by WIXSON, K. (1979) below.
- RYAN, E., McNAMARA, S. & KENNEY, M. (1977) 'Lexical awareness and reading performance among beginning readers' Journal of Reading Behaviour, 9, 399-400.
- SCHUMMERS, J.L. (1956) 'Word pronunciation in the oral sight-reading of third grade children'. Unpublished Doctoral Dissertation, University of Minnesota. Cited by WEBER, Rose-Marie (1968) below.
- SCHONELL, F. (1976) Graded Word Reading Test : Edinburgh: Oliver and Boyd.
- SMITH, F. (1971) Understanding Reading. Holt, Rinehart and Winston.

- SMITH, F. (1973) Psycholinguistics and Reading. New York: Holt, Rinehart and Winston inc..
- SMITH, F. (1978) Reading: Cambridge: Cambridge University Press.
- STUART-HAMILTON, I. (1986) 'The role of phonemic awareness in the reading style of beginning readers'. British J. of Ed. Psych. (56), 3, 271-285.
- SWANSON, D.E. (1937) 'Common elements in silent and oral reading' Psychological Monographs, vol. 48, 36-40.
- TAYLOR, W.L. (1953) 'Cloze procedure: a new tool for measuring readability'. Journalism Quarterly, 30, 415-433.
- THOMAS, K.J. (1975) 'Syntactic/semantic acceptability and semantic similarity of oral reading errors as functions of variation in attained comprehension'; Cited by WIXSON, K. (1979) below.
- THOMPSON, G.B. (1981) 'Semantic context and graphic processing in the acquisition of reading.' Brit. J. of Ed. Psych. (1981) 51, (3) 291-300.
- THOMPSON, M. (1978) 'A psycholinguistic analysis of reading errors made by dyslexic and normal readers. J. of Res. in Reading (1978) Vol. 2, 7-20.
- THORNTON, N.F. (1973) 'A psycholinguistic description of purposive oral reading and its effect on comprehension for subjects with different reading backgrounds'; cited by WIXSON, K. (1979) below.
- Van LIEROP, M. (1985) 'Predisposing factors in early literacy: A case study' in: CLARK, M.M. (1985) (Ed.) above.
- VERNON, M.D. (1957) Backwardness in Reading, London: Cambridge University Press.
- VERNON, M.D. (1971) Reading and its difficulties, London: Cambridge University Press.
- WALTON, J. (1987) 'Reading's for when you're bored'. Reading, 21, 3, 205-206.
- WATTS, L. and NISBET, J. (1974). Legibility in Children's Books; Slough, N.F.E.R.
- WEBER, Rose-Marie (1968) 'The study of reading errors: A survey of the literature.' Reading Research Quarterly, 4, 96-119.
- WEBER, Rose-Marie (1970) 'A linguistic analysis of first grade reading errors.' Reading Research Quarterly, 5, 427-451.
- WEST, R.F. & STANOVICH, K.E. (1979) 'The development of automatic word recognition skills', Journal of Reading Behaviour, 11, 211-219.
- WILLIG, C.J. (1980) 'Are children aware of their own reading ability?' Language for Learning, (1980) 2, (1) 27-35.

WIXSON, K. (1979) 'Miscue analysis: a critical review'. Journal of Reading Behaviour, 11, (2), 163-175.

WOOD, D. et al (1980) Working with under fives. McIntyre.

WOOSTER, A.D. (1970) 'The education of self as a reader', in: Proceedings of the sixth annual study conference of the United Kingdom Reading Association. Ward Lock Educational.